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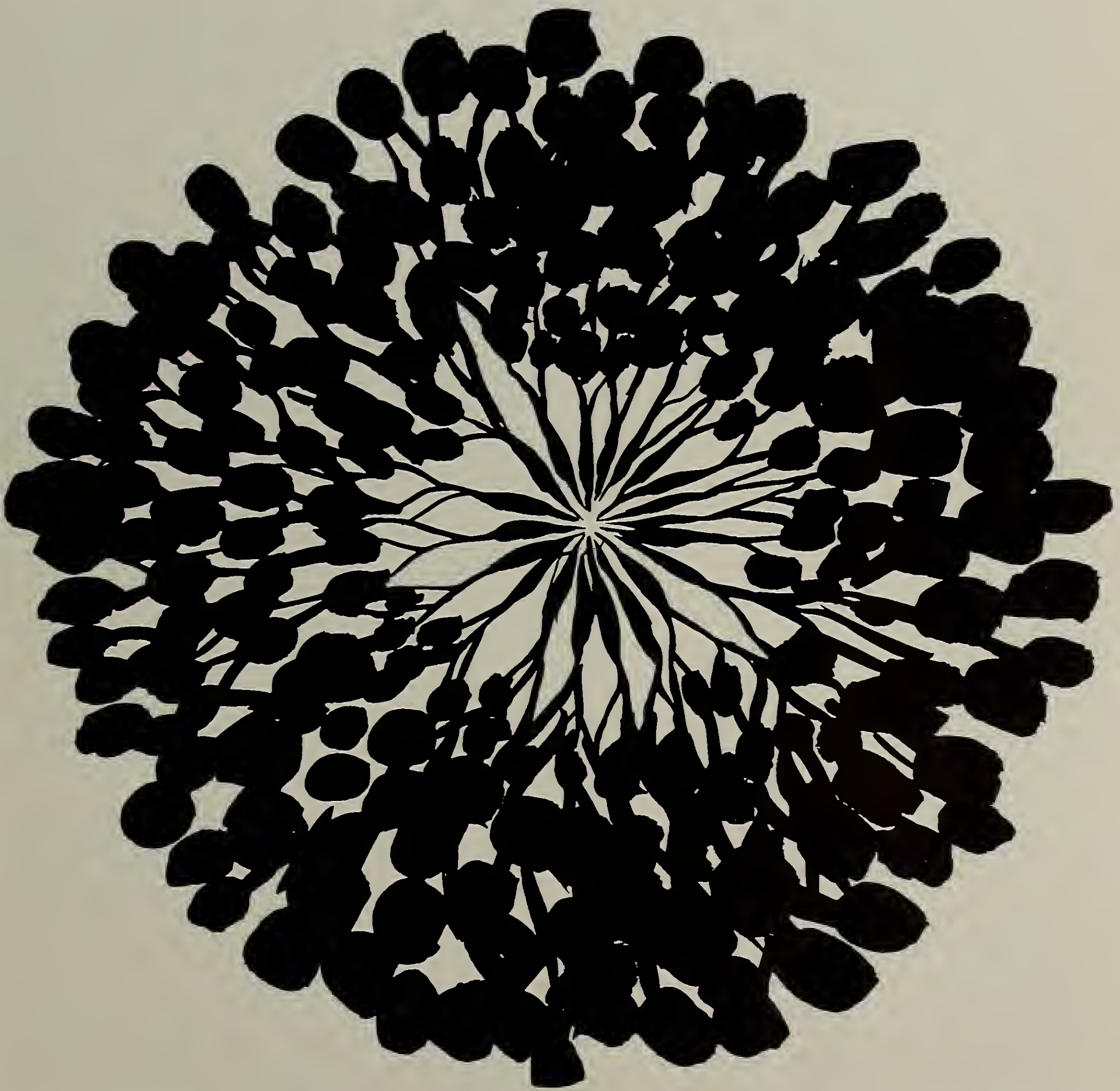

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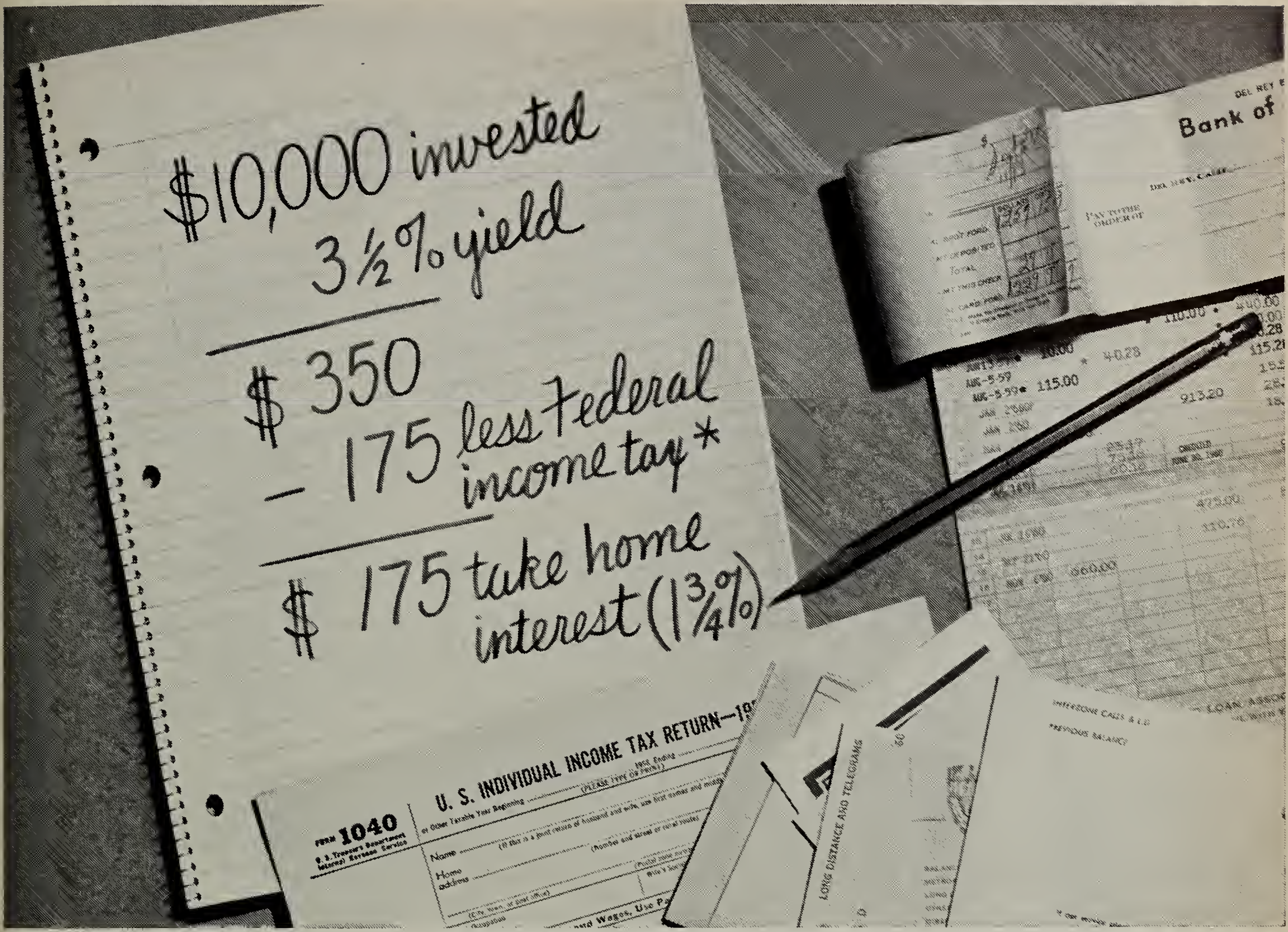

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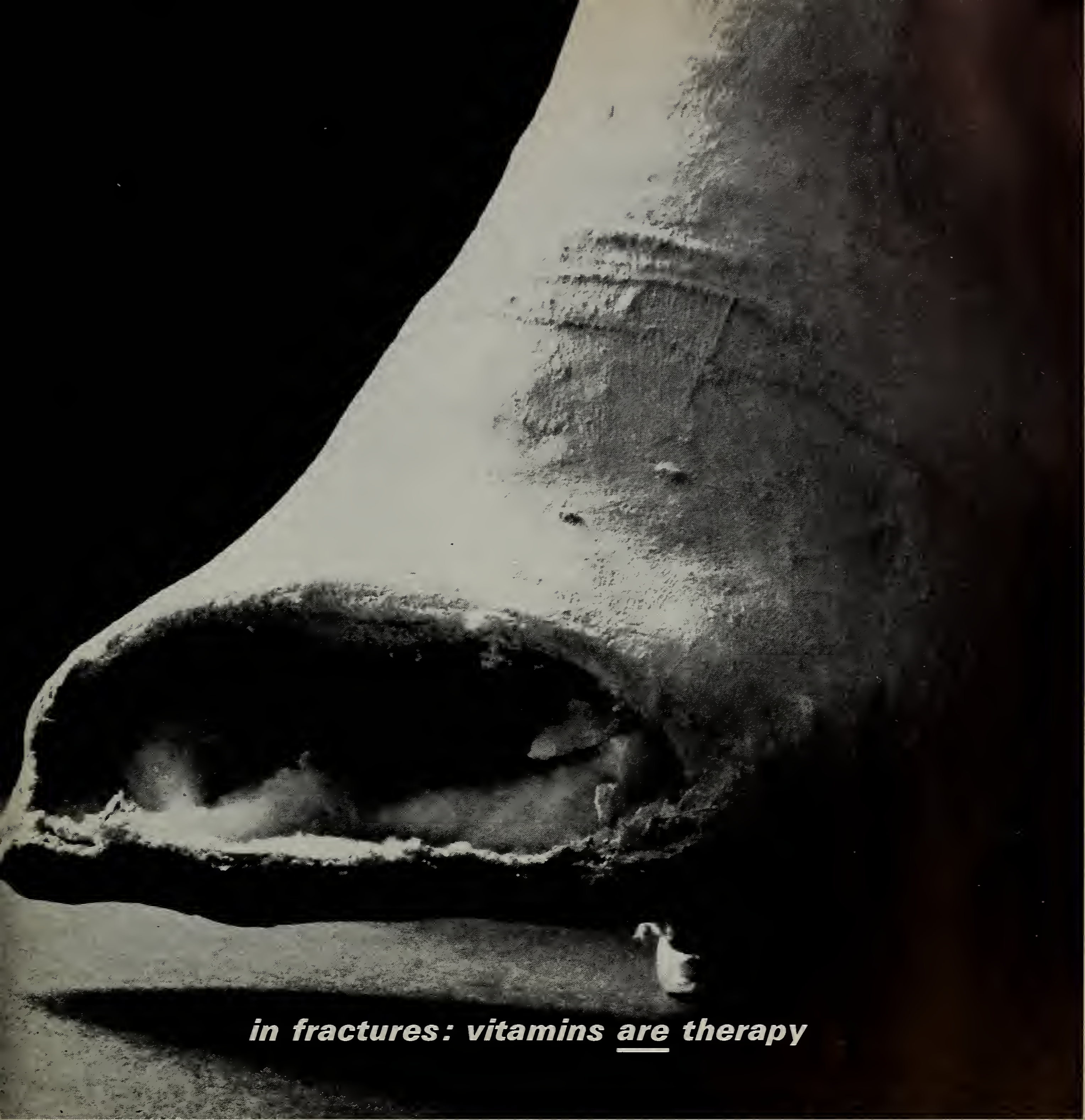
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New Nonproprietary Drug Names Appearing in J.A.M.A.

A listing of new nonproprietary drug names began appearing in the November 18 *Journal of the American Medical Association.*

The AMA through its Council on Drugs, and the United States Pharmacopeia have recently joined forces in a program of selection of nonproprietary names for single entity drugs, i.e., those drugs with a single active ingredient or extracts from a single source.

"The purpose of publishing such a list at this time is twofold: (1) to promptly provide medical educators and physicians with basic and authoritative information on new drugs, and (2) to provide editors of medical journals with a convenient source of formally adopted, nonproprietary names and to encourage their use in these publications," a *Journal* editorial said.

Screening Program Prevents Case of Mental Deficiency

A case of mental deficiency was prevented by an infant testing program in Cincinnati, it was reported in the November 25 *Journal of the American Medical Association.*

After testing more than 10,500 babies since 1958 for the condition known as phenylketonuria, which results in mental deficiency, a case was detected in a five-week-old baby and treatment begun at once, Helen K. Berry, M.A.; Betty S. Sutherland, M.D., and George M. Guest, M.D., University of Cincinnati College of Medicine, Cincinnati, said.

At nine months, the child appeared to be "developing normally, both mentally and physically," the authors said.

Under the Cincinnati program, hospitals distribute to new mothers kits to use in obtaining a urine specimen from the baby between four and six weeks after birth. The specimen on special filter paper is mailed into the hospital where analysis can reveal the existence of the disorder.

Hospitals in Cincinnati with large maternity services have joined the program, the authors said, and it is estimated that half the babies born in these hospitals are being tested.

Recently, Kentucky and Wisconsin began infant testing programs on a statewide basis, they said.

"As a result of these screening programs, infants with phenylketonuria have been found who would otherwise not have come to the attention of a physician until mental deficiency became apparent," the authors said.

The disorder is caused by an abnormality of the metabolism of phenylalanine, an amino acid essential to normal development. Treatment with a protein, hydrolysate, can prevent this abnormality from affecting mental development but cannot reverse the mental effects once they have occurred.

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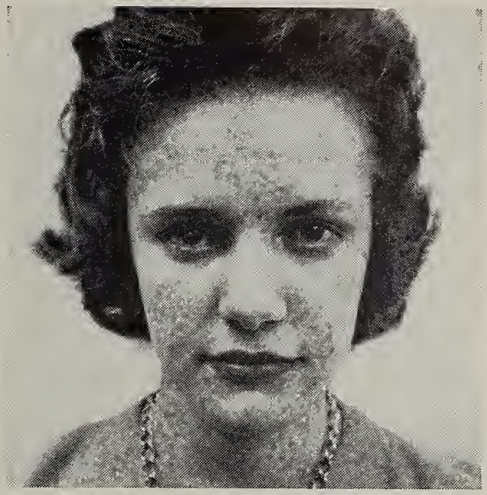

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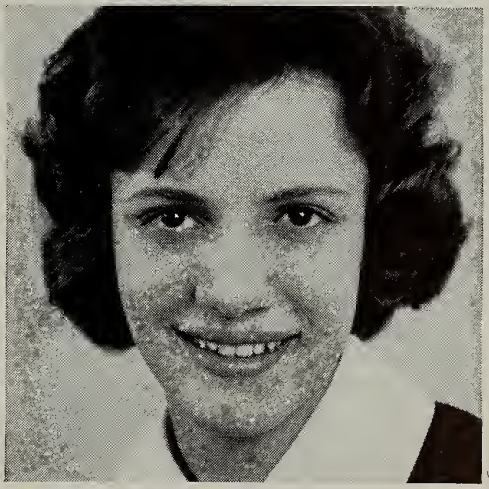

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Books received by CALIFORNIA MEDICINE *are acknowledged in this column. Selections will be made for more extensive review in the interest of readers as space permits.*

THE ART OF THINKING—Dagobert D. Runes—Philosophical Library, Inc., 15 East 40th St., New York 16, N. Y., 1961. 90 pages, $2.75.

CEREBRAL VASCULAR DISEASES—Transactions of of the Third Conference Held Under the Auspices of THE AMERICAN NEUROLOGICAL ASSOCIATION and THE AMERICAN HEART ASSOCIATION, Princeton, New Jersey; January 4-6, 1961. Conference Supported by a Grant from NATIONAL INSTITUTE OF NEUROLOGICAL DISEASES AND BLINDNESS. Clark H. Millikan, Chairman; Robert G. Siekert and Jack P. Whisnant, Editors. Published for The American Neurological Association and The American Heart Association by Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1961. 247 pages, $5.75.

CIBA FOUNDATION STUDY GROUP NO. 10—Biological Activity of the Leucocyte—in honour of Professor A. Vannotti. G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Maeve O'Connor, B.A., Editors for the Ciba Foundation. Little, Brown and Company, Boston, Massachusetts, 1961. 120 pages, $2.50.

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Identical Twins Suffer Identical Ills

A pair of 79-year-old identical twin women have suffered six identical ailments, according to a report in the November 4 *Journal of the American Medical Association.*

Drs. Lewis M. Schiffer, Matthew Zucker, and Eugene L. Lozner, Syracuse, N. Y., said the two women had a "unique combination of illnesses."

They both now suffer anemia, partial paralysis of the face, an abnormality of the small bowel and hernia of the colon, the authors said. In addition, they said, both women also had a benign tumor of the breast and probable toxemia of pregnancy.

Although anemia in identical twins is not unique, the physicians said, they could find no previous record of the incidence of the other disorders in twins.

The phenomenon suggests the possibility of a defect in one or more of the patients' chromosomes, the units of heredity, although no chromosome abnormality was observable, they said.

Mortality of Executives Lower Than Average

The mortality rate among executives was found to be lower than that among the general male population in a 10-year study reported recently.

The study, reported in a publication of the American Medical Association, did not support the general impression that the business executive is "a harried and hurried man driven inexorably toward an early death."

Robert M. Thorner, M.P.H., and E. L. Crumpacker, M.D., Washington, D. C., studied 451 white male executives of one of the major industrial corporations in the country who underwent annual medical examinations under the health maintenance program of the firm.

If the executives had experienced the mortality expected among the general white male population in the United States of comparable age, 25 deaths would have occurred, the researchers said in the November *Archives of Environmental Health.*

"Actually 11 executives died during the period of observation, yielding a standardized mortality ratio of 44 per cent, a considerably more favorable experience for the executive than that of white males of similar ages," they said.

Coronary heart disease predominates as a cause of death among the executives, the authors said, but the occurrence is "probably not excessive."

The favorable mortality of these executives is probably related to a high standard of living and good medical care, they said, adding:

"In the competition for executive positions, a healthy person undoubtedly possesses a competitive advantage. There is, therefore, this element of preselection in this population group. One would also like to believe that the periodic health examinations

(Continued on Page 38)

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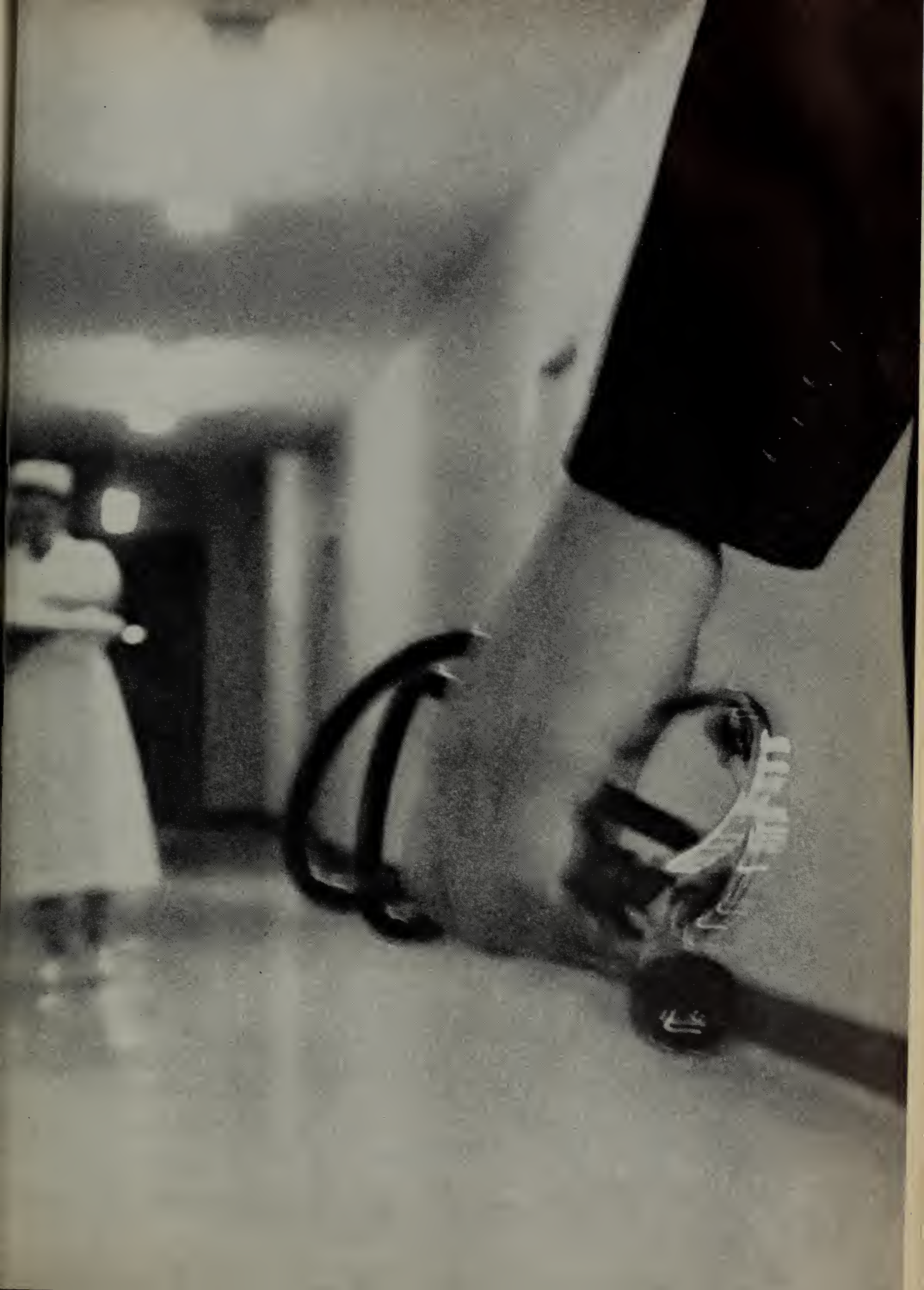

Mortality of Executives Lower Than Average

(Continued from Page 33)

received by this group made a positive contribution to their longevity. Undoubtedly, these periodic appraisals along with the generally better medical care received by the group are factors. Also of importance are the favorable environmental conditions enjoyed by this group, including better than average food, housing, and recreational opportunities."

On the other hand, they said, the stress encountered by this group is often cited as a tendency to reduce their longevity.

"One may counter this argument by saying that stress, like beauty, is in the mind of the beholder," they said. "The wage earner who worries about a layoff may feel as much or more stress than the executive who fears loss of a $50,000 a year job."

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Emotions Can Affect Accident Tendency

A person's emotional state may influence his susceptibility to accidents, according to Dr. Stanford G. Rogg, Wilmington, Del.

Dr. Rogg reported on a study which delved into the thought processes of 35 persons before they were involved in industrial accidents in the November *Archives of Environmental Health,* published by the American Medical Association.

Interviews with the accident victims revealed that an accident "may be an unconscious physical solution of an emotional problem," he said.

"We have all heard the statement that certain individuals tend to take their work home with them," he commented. "The reverse is often true. Some people tend to take homes to work with them."

Several cases in which emotion played a role in an accident were cited by Dr. Rogg.

In one instance a man twisted his ankle getting out of a truck as he suddenly shifted direction to

(Continued on Page 54)

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Insects as Allergen Injectants

Severe Reactions to Bites and Stings of Arthropods

FRANK PERLMAN, *M.D.*, Portland, Oregon

• Arthropods capable of penetrating human skin often cause severe local and systemic reactions. Local reactions suggest delayed hypersensitivity while systemic symptoms resemble more the anaphylactic shock in animals.

The nature of the antigen remains obscure but predominant evidence suggests its presence throughout the entire organism.

Positive history of hypersensitivity to insect injectants was obtained in approximately 20 per cent of persons in the course of routine interviews of 1,078 patients.

Repeated bites and stings at long or irregular intervals often induce a state of hypersensitivity, while repeated regular injections of extracts of these insects at shorter intervals may greatly reduce the hypersensitivity.

The clinical evidence of allergic sensitivity to insect bites and stings cannot be readily confirmed by skin testing or by other immunological procedures. The history and the character of the lesions as well as certain entomological knowledge of the habits of the insects offer a better basis for specific diagnosis.

Treatment with extracts of the whole offending insect generally provides good results but the protection afforded by such treatment varies in degree and duration.

MANY ARTHROPODS are known to attack man for food or in defense or to carry on the life cycle. To a few persons the bites, stings or actual invasion of the skin by arthropods will cause excessive reactions which may take the form of large lasting local effect or systemic symptoms. Arthropods capable of producing such effects include chiefly those within the class *Hexapoda*. There are a few additional offenders in the class *Arachnida*[1] (Table 1).

Local reactions may vary from immediate urticaria to delayed lesions of tuberculin type to necrosis of granulomatous or even of Arthus type.[5] Systemic symptoms may be mild and transient or severe and even fatal.[25] These violent systemic reactions resemble more the anaphylactic shock of laboratory animals than the common allergic disorders of man (Table 2).

The development of severe reactions to bites and stings has been found by us to be statistically no more frequent in patients with general allergic disorders than in the general population, nor is there any apparent hereditary component. The acquired nature of allergic reactions of this type is frequently demonstrated in entomologists bitten accidentally or intentionally to supply blood meals. This has been demonstrated with mosquitoes, biting flies, fleas, lice, kissing bugs and scorpions. Naturally induced anaphylactic state and acquired immunity are illustrated in the following two case histories:

CASE 1. A 5-year-old child was stung on the foot in early June 1960, the sting resulting in no local or systemic symptoms. A second sting, in early July of the same year on the scalp, produced large local swelling which persisted for several days. The third sting, in early August 1961 on the finger, was followed within five minutes by swelling about the lips

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Presented before the Section on Allergy at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

and urticaria involving the entire trunk. The patient was rushed to the hospital where an injection of epinephrine gave prompt relief.

This strongly suggests naturally induced hypersensitivity by repeated stings at monthly intervals.

CASE 2. A 41-year-old man who was stung on the back of the neck developed within several minutes generalized itching, faintness and loss of sphincter control. Edema of the throat and tongue made breathing difficult. He was rushed to the hospital where epinephrine injection slowly reduced the tongue and throat edema, obviating the need for tracheotomy, which had been considered. Four days later the patient's brother-in-law, returning from the woodshed after exterminating a yellow jacket nest, brought on his clothing one survivor which immediately flew to the patient, stinging him. The family rushed the victim to the hospital, but during the 15-minute auto trip he noted no physical ill effects. After waiting outside the hospital emergency station for an hour, he returned home without medication and without symptoms.

TABLE 1.—*Arthropods Whose Bites or Stings Are Known to Cause Allergic Reactions (Exclusive of Primary Venom Effect)*

Classification	Common Names	Common Type Reactions	
		Local	Systemic
Class *Hexapoda:*			
Order *Hymenoptera*	Bees	x	x
	Hornets, wasps	x	x
	Yellow jackets	x	x
	Ants	x	x
Order *Diptera*	Mosquitoes	x	—
	Deer, horse flies	x	x
	Stable flies	x	x
	Black flies	x	x
	"No-see-ums"	x	—
Order *Siphonaptera*	Fleas	x	—
Order *Hemiptera*	Bed bugs	x	x
	Assassin bugs	x	x
Order *Anoplura*	Sucking lice	x	x
	Crab lice	x	x
Class *Arachnida:*			
Order *Araneida*	Spiders	x	?
Order *Scorpionida*	Scorpions	x	x
Order *Acarina*	Mites, ticks	x	—

This case strongly suggests a "refractory stage" which can be experimentally produced in animal anaphylaxis.

The incidence of allergic reaction to insect injectants is not known. The history of such experience is rarely solicited even in detailed allergic survey. In our clinic during the past calendar year 1,078 new patients interviewed were specifically questioned concerning any severe allergic reactions to insect bites or stings. Rigid requirements for a positive history were established. The following question was asked:

"Do insect bites or stings—mosquito, flea or bee —(pause)—poison you more than they do other people?"

Almost invariably the positive answer came during the pause, before the question was completed. Further questioning evoked a description of the local lesion or systemic symptoms sufficient for a clinical diagnosis. Only a very few such cases were excluded because of equivocal details. Of the 1,078 patients interviewed, 220, or about 20 per cent, gave adequate histories of reactions to such insects. Their records were further reviewed and summarized in Table 3.

Diagnosis of these allergic reactions to bites and stings can often be made clinically. Systemic effect follows in a matter of minutes after the encounter.

TABLE 2.—*Comparison of Common Allergic Disorders, Anaphylaxis and Insect Allergy*

Points of Comparisons of Common Allergic Disorders, Anaphylaxis and Insect Allergy	Phenomena Noted in Connection With		
	Common Allergic Disorders	Animal Anaphylaxis	Allergic Sensitivity to Insects
Heredity and development of allergic state	Strong hereditary evidence, not readily induced.	Readily induced.	Can be induced by repeated irregular exposure to bites and stings.
Nature of antigen	May be protein or protein conjugate.	Anaphylactogen is usually protein—minute amounts may cause anaphylactic death.	Not clear, but minute amount may cause anaphylactic type death.
Nature of antibodies	Reagin (skin sensitizing).	Anaphylactic antibody (precipitin, etc.). No skin sensitizing antibodies demonstrated.	No skin sensitizing or other antibodies readily demonstrated.
Clinical picture	Shock organ varies with individual.	Specific for species of experimental animal.	Systemic symptoms usually characteristic, varying chiefly in degree.
Results of repeated injection of antigen	Refractory period not regularly produced. "Desensitization" is partial.	Refractory period can be readily produced. Complete "desensitization" is possible.	Refractory period occurs after natural sting or bite. Apparent "complete desensitization" occurs.

TABLE 3.—*Analysis of 1,078 Routine New Patients Interviewed As to History of Allergic Sensitivity to Insect Bites.*

	Total	Per Cent
Positive history of reactions to bites or stings	220	20
Types of reaction reported:		
Pronounced local swelling	176	80
Systemic symptoms only	22	10
Both local and systemic symptoms	22	10
Number of insects causing reaction:		
Single	163	74
Two or more	57	26
Relative frequency of insect offenders:		
Mosquitoes	119	54
Bees, wasps, etc.	113	51
Fleas	23	10
Others	12	5
Results of skin testing with insect material:		
Positive scratch reactions with offending insect		10
*Positive scratch reactions with nonbiting insects		28
Positive intradermal reactions with offending insect:		
Immediate wheal (2+ or more)		75
24-hour erythema (3+ or more)		89

*A larger number of tests on each patient, using various nonbiting insects would account for the larger number of positive reactions. Among these patients many had hay fever or asthma and reacted to common inhalant allergens.

Sometimes the family or species of the arthropod cannot be determined but often the victim may readily report whether it is of the order *Diptera* (mosquitoes and biting flies) or of the order *Hymenoptera* (bees, yellow jackets, etc.). Diagnosis of local reaction may be obscured by the surrounding wheal, by excoriation or by secondary infection.[12] However, certain points may help toward a more specific diagnosis:

Flying insects often affect exposed areas whereas those that crawl or hop will affect portions of the body accessible to them. The flea affects the lower extremities while the fly, mosquito and bee often attack the face and upper extremities. The spider may bite about the head of persons walking through unfinished basements, or around the exposed buttocks in open privies. Biting flies, mosquitoes and bees produce single lesions (Figure 1) while the fleas bite several times (Figure 2) to get full blood meals.

Specific diagnosis of allergic sensitivity to injectants cannot be reliably made by the conventional skin tests with the allergenic extracts now available. Strong positive immediate whealing and large delayed reaction occur frequently without a positive history. Nonbiting insects elicit equally strong skin reactions, as noted in Table 3 (Figure 3). Yet, skin testing is routinely done by us in such patients, first by scratch method with the most concentrated material and then by intradermal method, using an appropriate dilution. The immediate whealing, and more importantly the delayed reaction, are used as

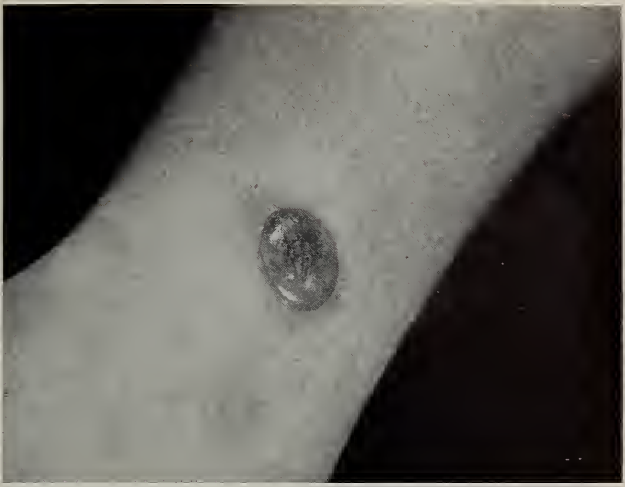

Figure 1.—Mosquito bite (ankle) producing bullous lesion.

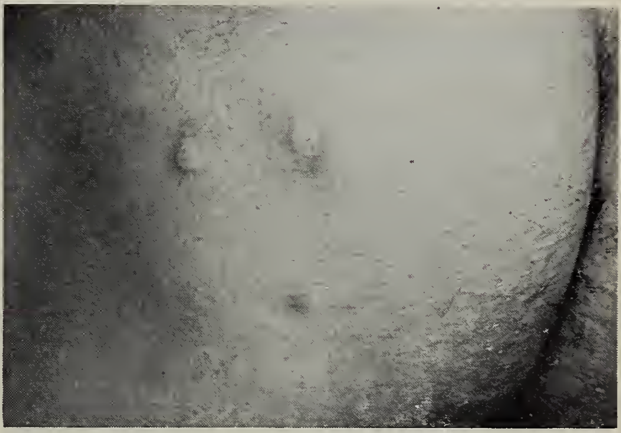

Figure 2.—Flea bites producing characteristic group of urticarial lesions.

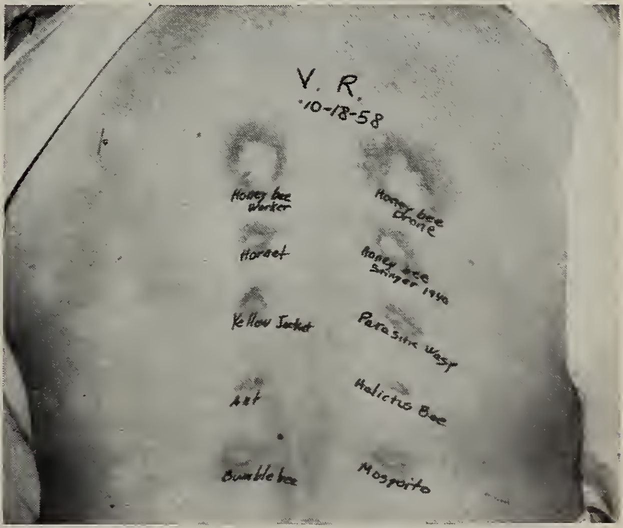

Figure 3.—Positive reactions (scratch tests) with *Hymenoptera.* Strongest reaction to honey bees, both worker and nonstinging drone. Similarly strong reaction to extract of isolated stinger sacs prepared 18 years previously.

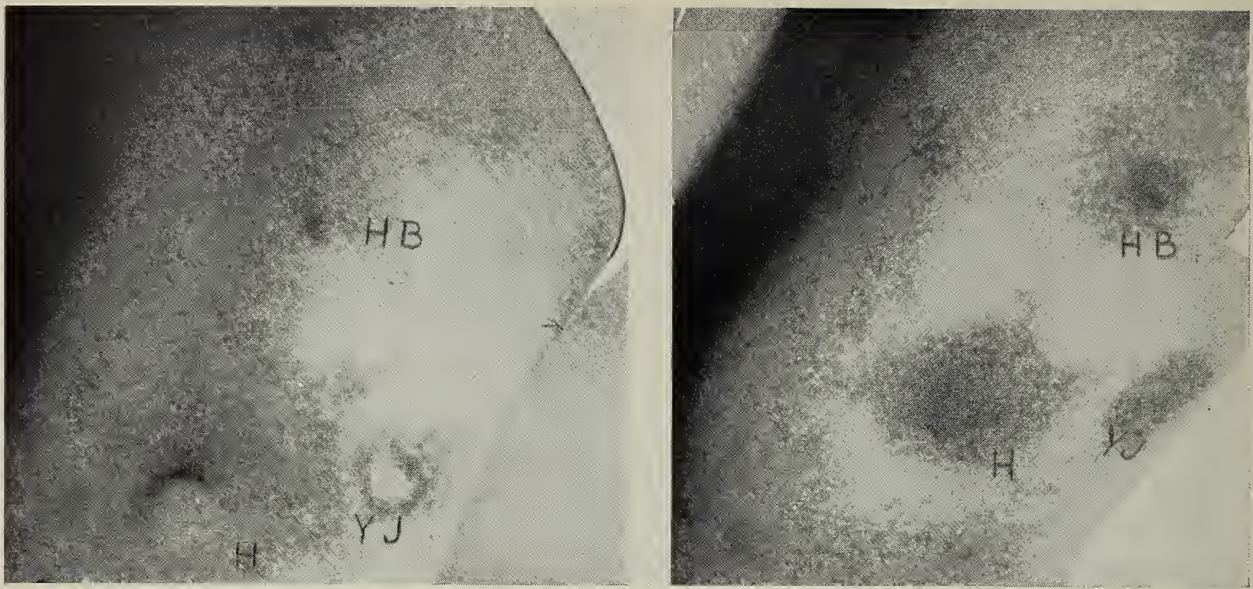

Figure 4.—*Left:* Reactions to skin tests (intradermal method) showing immediate reactions to honey bee (H.B.), yellow jacket (Y.J.), and hornet (H.), using 1:1,000 dilution after negative scratch test. Patient gave history of violent systemic reactions to stings. *Right:* Reactions after 24 hours.

guides in preparation of the material for specific immunization (Figures 4 and 5). Clinical results of treatment, however, appear to be as good in some patients with minimal skin reactions as they are in those showing large wheals or delayed erythema.

The nature of the allergen in these biting and stinging insects remains obscure. There is still some controversy as to whether it is in the venom sac[17] and salivary glands or is common to the entire organism. Our studies have agreed with those of Benson and Semenov[4] and Prince and Secrest[32] that the allergen for treatment is present in the whole insect. This of course makes the preparation of allergenic extracts much easier than if we had to dissect out the salivary glands or the venom sacs. Head and mouth parts or stinging apparatus used in penetrating the skin may remain in the victim, especially if the insect is killed or violently removed. This may account for some systemic effect and does certainly contribute to chronic granulomatous lesions. The feces of lice, mites and ticks, which feed for long undisturbed periods, contain allergenic substances capable of causing local skin reactions.

Preparation of insect allergen extracts has been described in previous publications.[28,29] They are processed from the live or quick-frozen stage so that deterioration and autolytic changes or bacterial invasion from the insect's gut will not occur. The defatted, desiccated, powdered material can then be kept indefinitely. Our aqueous extracts of a 1:10 by weight volume prepared in buffered 50 per cent glycerine have remained allergenically active for months and even years.

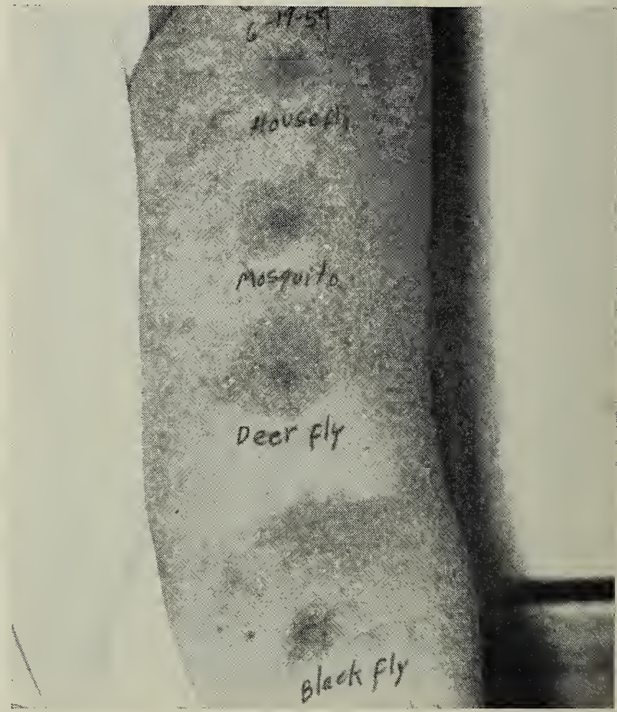

Figure 5.—Skin tests (intradermal method) showing 24-hour reactions to various families of biting *Diptera.* Reactions varied only in degree. The patient, who had severe disabling reactions to mosquito bites, was successfully treated with mixed mosquito antigen.

Treatment by subcutaneous injection of graduated doses of these extracts, using the offending insects or closely related species or even family, has been our routine procedure. Intradermal route for treatment has been reported effective after even a few injections.[3,18,24] If this method proves consistently reliable, it may also shorten the period of treatment and would conserve material. The "repository method" of single yearly doses is now being used.[31] It is still unproved either as to immediate or as to lasting effect. There remains the question of producing delayed hypersensitivity which may warrant caution in using an adjuvant known to augment the production in experimental animals of certain antibodies which in patients may mean new clinical problems.

Results of treatment are generally reported as gratifying by many investigators using different antigens and diverse routines of treatment. This suggests that the allergen is universal throughout the insect and duration of treatment is often carried out longer than necessary. Our experience with treatment for allergic reaction to various biting and stinging insects has been almost invariably good. It has often been observed that, after a series of injections of bee and flea antigen, the "immunized patient" (and even the experimental animal) is no longer attacked by that insect. This observation, however, is not true of patients who are immunized to severe reaction to mosquito bites. Immunity is lasting after treatment with allergens of some insects ("bees" and biting flies) but of shorter duration with others (flea).

Symptomatic treatment for local allergic reaction to bites and stings is directed for the most part toward temporary relief. Rest, elevation of extremity and the application of cold compresses will reduce the degree of swelling. Analgesics, antipruritics and antiseptics give comfort and control secondary infection. The antihistamines are usually of little help. Steroids have been used by us only for cases in which there has been excessive swelling and especially when it is essential to hasten relief from prolonged edema and inflammation.

For the systemic reaction the use of the most rapidly acting, parenterally administered drug may be life-saving. Minutes count, and epinephrine aqueous 1:1000 given deep subcutaneously is still our drug of choice. The exact dose is governed by circumstances—0.3 to 0.5 cc. for adults and 0.1 to 0.25 cc. for children 5 to 12 years of age. Mortality from bites and stings has, I am sure, been greatly reduced by an immediate injection of epinephrine. Antihistamines orally and isoproterenol sublingually do not always fulfill their theoretical purpose; but, if taken immediately after the sting, they will permit the patient to reach the physician for more heroic measures. The steroids as emergency measures, even intramuscularly or intravenously, are not the first drugs of choice. The victim may die within five to ten minutes, before adequate pharmacological action of these drugs can take place.

A brief discussion of each class and order of the various arthropods will exemplify these general remarks.

ORDER HYMENOPTERA

Family *Apidae* (honey bees)
Family *Bombidae* (bumble bees)
Family *Halictidae* (sweat bees)
Family *Vespidae* (wasps, hornets, yellow jackets)
Family *Formicidae* (ants)

The order *Hymenoptera* (Table 1) which includes bees, wasps, hornets, yellow jackets and ants comprises a number of families whose stings often result in severe local or systemic reactions. The clinical picture, the program of treatment and the gratifying benefit from such specific immunization are commonplace clinical experiences to allergists and to physicians in general. Medical literature is replete with well-documented observations.

A review of records of 41 patients in our series who returned satisfactory replies to a comprehensive questionnaire provided the following general observations:

1. Rarely did the patient have both severe local and systemic reactions from the stings.
2. Diagnosis was made from the clinical history or evident local reactions.
3. Skin testing alone showed no quantitative relationship between clinical experience of the patient and local skin reactions. However, positive skin test reactions, particularly of the delayed type, were used as an arbitrary guide in making up the antigen and outlining the program of treatment.
4. An extract of the whole insect was used and in most cases a mixture of several families of *Hymenoptera* was employed.[11]
5. The number of injections administered to each patient varied from several (these patients discontinued of their own volition) to a large number extending over three years (at a maintenance dose of once a month when full dosage had been reached).
6. The longest record in this series was 23 years after treatment without adverse experience from stings.
7. Twelve, or almost 30 per cent, of the patients reported having been stung from one to four times after treatment. Only two patients indicated reacions that were more than moderate. One reported generalized hives. The other reported fever and "nervous upset." The patient herself suggested that symptoms may have been chiefly a manifestation of "apiphobia."

Results in this small series show gratifying benefit similar to that reported by other investigators,[4,18,23] but here too the good results fail to provide strong positive answers to these basic questions:

1. The type of antigen to be used
2. Schedule and length of treatment to follow
3. Objective test that will give some assurance of effectiveness of treatment
4. Duration of effective immunity.

ORDER DIPTERA

Family *Culicidae* (mosquitoes)
Family *Tabanidae* (horse flies, deer flies)
Family *Muscidae* (stable flies)
Family *Simuliidae* (black flies or buffalo gnats)
Family *Heleidae* ("punkies," "no-see-ums," "sand flies")

The order *Diptera* (mosquitoes and biting flies, Table 1) embraces many members having mouth parts capable of penetrating skin and comprises one of the largest group of insects that produce abnormal local and severe systemic reactions.

Mosquitoes are the most frequent offenders, producing severe local effects; but rarely do they cause systemic symptoms. Abnormal delayed reaction occurring within four to 24 hours may vary from pronounced edema and erythema to large papular or vesicular or even bullous lesions. Cellulitis and lymphangitis or necrosis of Arthus type are not uncommon[5]

The nature of the antigen remains obscure. Testing with the nonbiting male mosquito produces equally strong reactions and treatment is often equally effective.[21,24,34] Whether it is necessary to use antigen from the specific species or genus[13,34] is still controversial, but from a practical standpoint this need not cause great concern since the important genus common to a local area in our temperate zone can be readily obtained in large numbers. However, a mixture of common genera has been used in treating our patients.

More and more patients violently sensitive to mosquito bites came to notice as specific questioning sought them out. More than 30 among those giving positive histories were tested with the mosquito antigen. Replies to our questionnaire were less satisfactory for analysis than with *Hymenoptera.* In only a small proportion of cases was it possible to get personal interviews a number of years after treatment with the mosquito antigen. Many of those whom we treated and later interviewed reported satisfactory continued relief so that camping or fishing trips became pleasurable. In one case a return trip to Central America was uneventful after a previous disastrous experience with mosquito bites. All of these patients but one reported experiencing mosquito bites with minimal local reaction. The exception, who obtained no benefit from the treatment, continued to have large, lasting, indurated lesions.

Biting flies including the family *Tabanidae* (horse flies and deer flies) and the family *Muscidae* (stable flies) inflict painful local lesions. In hypersensitive persons these bites may be followed by severe and prolonged swelling and not infrequently by systemic reaction similar to that resulting from the sting of the *Hymenoptera.*[10,19] The great hazard occurs when these are encountered on fishing and hunting trips and prompt medical aid is not available. Three patients having such systemic reactions received treatment with our deer fly extract (*Chrysops discalis*). Thus far only one has since been bitten after treatment; he reported no untoward effect.

Black flies, sometimes called "buffalo gnats," also have vicious bites and are capable of producing severe swelling, often about the face and eyes. There are occasional reports of systemic reaction from such bites. These flies are commonly encountered throughout the northern United States and southern Canada. One patient who each year had disabling reactions to the bites of these insects was treated with extracts provided by us and administered under the close supervision of Dr. Lowell Henderson of Rochester, Minnesota. Following treatment the patient wrote:[15]

"I have been in the north country for the past five years with black flies and mosquitoes by the millions. I am glad to report your material saved me a lot of discomfort and suffering. I did not get any bad reactions from the black flies nor did the mosquitoes seem to annoy me as much as usual."

This report indicates not only relief from the allergic reaction by the injection of extracts of the specific family of black flies but suggests that the bites of other families (mosquitoes) were similarly reduced in their effects. Therefore, conversely, since black flies are difficult to collect in adequate numbers when specific extract is needed, possibly the use of a mixture of more readily available *Diptera* may be justified.

Biting midges (family *Heleidae*), predominantly in the southern United States, acquire different names in different areas. The commonest are "punkies," "no-see-ums" and "sand flies" (*culicoides*). They have vicious bites and are tiny enough to pass through ordinary screening.

The bites sometimes result in large local reactions with inflammation and vesiculation. Arean and Fox[2] described histological changes and give a discussion of the nature of the toxic agent and mechanism of production of the lesion. Immunization, using a specific genus or even family, is made impractical by the difficulty of collecting an adequate supply for preparation of an extract. Although there are no reports of treatment for this acute reaction it would be of interest to offer immunization injections to hypersensitive patients using a closely related family within the order *Diptera* on the basis of cross-antigenicity.[30]

* * *

ORDER SIPHONAPTERA (FLEAS)

Family *Pulicidae*
  Cat flea (*Ctenocephalides felis*)
  Dog flea (*Ctenocephalides canis*)
  Human flea (*Pulex irritans*)

Within this order of biting insects the family *Pulicidae* contains the chief offenders, and of these, cat fleas and dog fleas are the most frequently identified. Fleas inhabiting other mammals, such as rabbits, rarely attack man. Specific sensitivity at the level of genus or species was reported by Boycott,[6] who demonstrated this on his wife, using human flea, rat flea and rabbit flea. Other observers[7] have noted similar phenomena and have recommended that a mixture of the most likely genera of fleas be used in testing and treatment.

Abnormal reaction to flea bites takes varying forms, including papules, urticaria, induration and necrosis of Arthus type. Secondary infection and pustulation are common and produce typical discoloration seen on the lower extremities (Figure 6). Grouping of lesions is characteristic of flea bites and is an important finding in the specific diagnosis (See Figure 2).

Fleas are widespread throughout North America. The State of California, and especially the San Francisco Bay area, have a special reputation for infestation with these household pests. Many newcomers are plagued during the early weeks or months of residence but after a time they may become so adapted (probably through acquired immunity) as to be no longer troubled. A few, however, have to change residence or seek specific treatment in order to remain in these areas.[7]

Treatment with extract of common fleas has given gratifying relief but not so consistent or so lasting as the results with *Diptera* and *Hymenoptera* allergens. Small doses were recommended by Hatoff,[14] who obtained benefit in 78 per cent of 129 children thus treated. Cheney and coworkers[7] believed prolonged therapy led to a breakdown of immunity and warned against a continuous and uninterrupted program of treatment.

The following observations were made by the author in dealing with a series of patients having severe reactions to flea bites:

1. Diagnosis was based largely on the characteristic grouping of lesions, chiefly on the lower extremities. On the rare occasions that an insect was caught, it was identified as a cat flea.

2. Lesions often showed induration and secondary infections later, resulting in discoloration and disfiguration.

3. Positive skin test reactions occurred but the immediate wheal and delayed erythema were milder than with other insect antigens and of minimal value in confirming the diagnosis or providing a guide in treatment.

4. Concurrent treatment with staphylococcus vaccine reduced the frequency of occurrence of pyoderm and thus the severity and duration of the eruption.

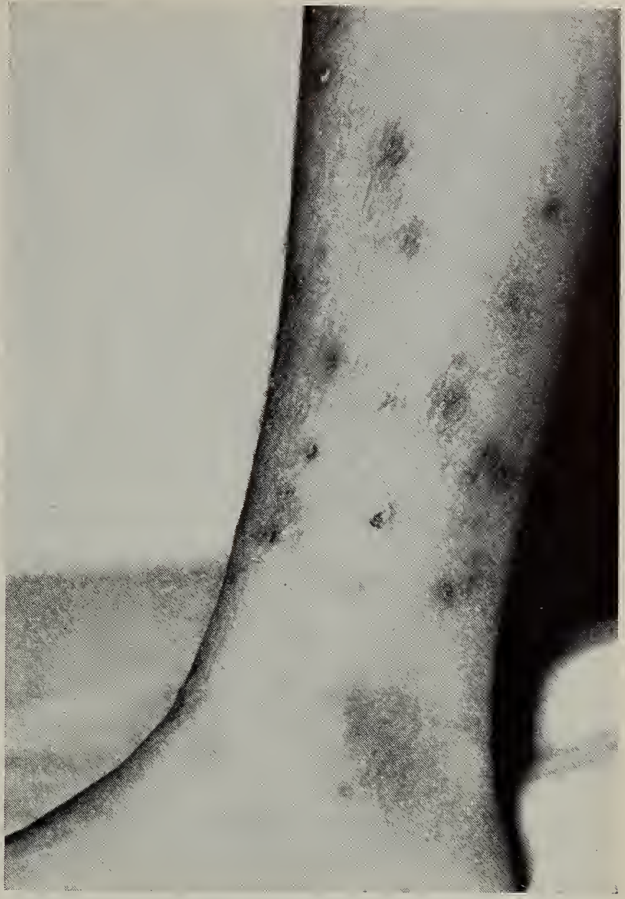

Figure 6.—Flea bites—delayed reaction with induration, pustulation and discoloration.

5. Results of treatment for hypersensitivity to flea bites were not so consistently gratifying or as lasting as for hypersensitivity to other insects.

* * *

MISCELLANEOUS ORDERS

Order *Anoplura* (sucking lice)
  Family *Haematopinidae*
    Head and body louse (*Pediculosis humanus*)
    Crab louse (*Phthirus pubis*)

Order *Hemiptera* (true bugs)
  Family *Cimicidae* (bed bugs)
  Family *Reduviidae* (assassin bugs)
    Kissing bug (*Reduvius personatus*)
    Wheel bug (*Arilus cristatus*)

Various orders, including lice and true bugs, are sporadically reported to cause allergic reactions. The smaller number of documented reports is due in part to the relative infrequency of encounter with them on the North American continent. Development of severe reaction after successive bites in the laboratory indicates that these insects capable of penetrating human skin should be added to the list of arthropods which can produce allergic reactions.

Lice which were prevalent among the immigrants from eastern Europe in the earlier part of this century often produced urticarial reactions and delayed

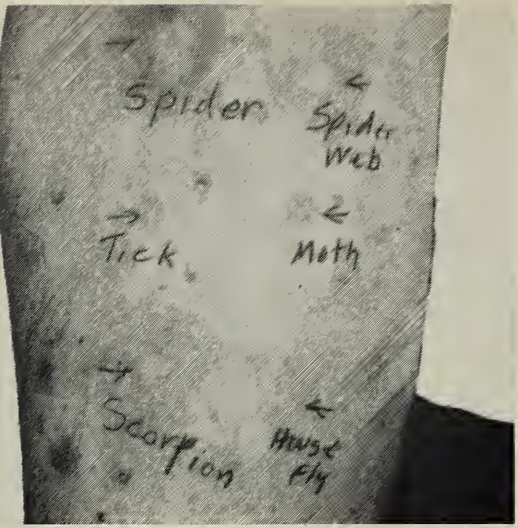

Figure 7.—Positive reactions (scratch tests) to various arachnids in a patient with atypical dermatitis suggestive of multiple bites and secondary eczematization.

inflammatory lesions. Moore[22] reported acquired sensitivity, with symptoms, first in a technician and later in himself, after they had permitted a large number of lice to feed on them on successive days. Peacock[27] produced "marked anaphylactic phenomenon" after intravenous injection of filtrate of excreta of lice, and also a flare-up at the sites of previous bites which then remained swollen for five days. Safdi and Farrington[35] reported obscure fever relieved after local treatment for pubic phthiriasis.

Bed bugs likewise appear only sporadically in homes and hostelries. When attacking humans in full numbers they often cause generalized urticaria. In addition to primary lesions produced by the bites, large lasting local and severe systemic reactions also occur. Parsons[26] reported anaphylaxis after such bites. The reaction was first ascribed to coronary occlusion, but he was able to reproduce the symptoms with a single bite and then to relieve the symptoms with an injection of epinephrine.

Biting bugs of the family *Reduviidae,* including kissing bugs (*Triatoma*) and assassin bugs (*Arilus*), inflict vicious wounds and may leave portions of their biting apparatus in the lesions. Severe local reactions are frequently observed. Systemic reactions in addition to local effect, observed by Shields and Walsh[37] in a patient bitten in three successive years, again suggested acquired hypersensitivity. This is confirmed by reports that persons bitten while working with the kissing bug also soon became acutely sensitive.

Systemic reaction to *Triatoma,* reported by Wood,[45] Talley[41] and Wolfe,[44] with manifestation of generalized eruption and respiratory distress was relieved by isoproterenol sublingually or epinephrine injection. Similar reactions from the bite of the wheel bug (*Arilus cristatus*) were discussed by Smith and coworkers.[16] This confirms again the axiom that all insect bites are capable of producing severe allergic reactions.

Although in the present study we observed no clinical manifestations from the biting bugs of the family *Reduviidae,* testing with this family and related families indicated a high incidence of positive immediate wheal formation. This was noted especially with a nonbiting[38] member, the box elder bug, which is a frequent invader in homes and may be more important as an inhalant allergen and cause sensitization to its biting relatives.

* * *

CLASS ARACHNIDA

Order *Araneida* (spiders, tarantulas)
Order *Scorpionida* (scorpions)
Order *Acarina* (mites, ticks)

The class *Arachnida* includes several orders which attack man, a few of which (spiders and scorpions) produce envenomation as the cause for pronounced local and systemic symptoms. Some bury themselves in the skin during their adult life for purposes of feeding (ticks), while others invade the skin during their larval stages of development (mites).

Poisonous spiders (black widow and brown recluse) and the scorpions produce primary reactions through the toxic action of the venom.[43] Most spiders rarely if ever attack man, preferring insects as a source of food. Periodically patients report spider bites, usually about the head and face and usually acquired in unfinished attics or basements. It is difficult to confirm in such cases that a spider bite occurred or that a pronounced swelling is caused by spider bite.

Scorpions studies by Doro, Ornelas and Johnson[9] showed they had in their venom a proteinaceous substance, which, however, was incapable of sensitizing guinea pigs. On the other hand, Stenhke,[39] in whose laboratories their work was done, reported cases of severe anaphylactic reactions from the sting of scorpions (*Centruroides*) in persons who "milked" venom from them. These employees may have been previously sensitized by inhalation of vapor sometimes created in the course of electrical stimulation of the scorpions.

Ticks belonging to the order *Acarina* and family *Ixodidae* are distributed across the breadth of this continent. Persistent local nodules are probably due to the residual portion of feeding apparatus at the site. These are readily relieved by simple excision. The infrequent development of severe local reactions to tick bites may be best explained by the local tissue response in the area of previous feedings. This may in time become a generalized immune reaction and is reflected in the lack of vigor of the tick feeding on an immunized animal, the reaction having the effect of decreasing access to the blood.[42]

Although in our studies we have seen no cases of severe allergic reaction to tick bites, we have observed large induced reactions. The earlier vaccines used for active immunization against Rocky Mountain spotted fever were extracts of ticks infected with the rickettsial organism. After yearly injections, some patients had decided swelling of an entire extremity. This suggested induced hypersensitization of the delayed type. Occasionally systemic symptoms of malaise and fever occurred, but only one case of acute anaphylaxis after injection of such a crude vaccine was brought to our attention. We have no record of any experience these hypersensitive persons may have had following subsequent tick bites.

Mites exceed true insects in total numbers. Although their primary medical importance is in the transmission of disease, in addition they do cause dermatological disorders by attacking or actually invading the skin. This is a familiar occurrence with "chiggers." In sensitive persons varying reactions, including a papular type of urticaria and atypical eczema, have been reported, especially from avian mites.[8,20,33,36,40]

In our routine studies the arachnid antigen (spider, scorpion, etc.) has caused reaction more frequently and to a greater degree than have antigens of other arthropods. In several cases this occurred where obscure eczematous disorders were present (Figure 7). The frequency of positive skin reactions and the presence of specific skin sensitizing antibodies which we have readily demonstrated would go well with the ubiquitous nature of arachnids, especially of the minute members (mites). They may indeed be important both to the allergists and to the dermatologists.

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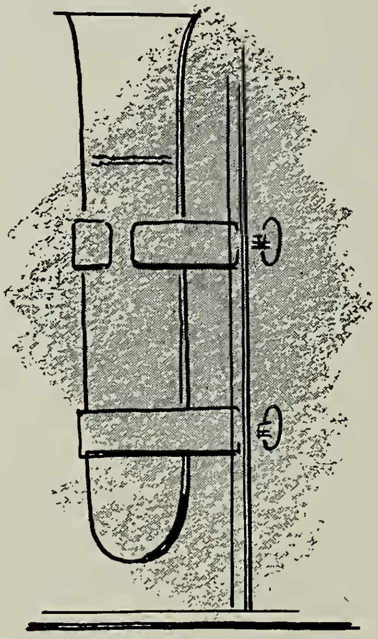

Open Heart Operations

Results in 100 Consecutive Cases, Using Extracorporeal Circulation

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• In one hundred consecutive cases in which operations were done on the heart with the surgical field exposed to view and circulation was shunted to extracorporeal apparatus, there were six deaths. None were attributable to the by-pass procedure. The lesions were of various kinds, congenital and acquired. In one case a fibromyxosarcoma that was obstructing the right ventricular outflow tract and invading the main pulmonary artery was successfully excised.

ONE OF THE MOST frequent questions put to cardiac surgeons by their medical colleagues concerns the risk of open heart operations. The literature abounds with impressive results in carefully chosen groups of patients—for example, those with atrial septal defects or those with ventricular septal defects and normal pulmonary vascular resistance. However, the initial consecutive experience of most open heart surgical units remains obscure.

We believe the most critical view of open heart operations with extracorporeal circulation comes from inspecting the results of consecutive cases. This report, then, deals with the first 100 consecutive patients operated upon during total cardiopulmonary by-pass in the Palo Alto-Stanford Hospital at the new Stanford Medical Center. There were six deaths in the 100 patients. Table 1 shows all cases analyzed with respect to the type of lesion and the mortality.

Discussion of Results

Four deaths occurred in patients with congenital heart disease and two in acquired conditions. No so-called "good risk" patients died. The only patient with a septal defect to die was a 17-month-old boy with a ventricular septal defect and severe pulmonary hypertension whose physical state was so poor he could not sit up without assistance. Two patients with atrioventricular canals died. One of them was eight months of age and cardiac arrest developed before by-pass could be instituted. Repair was carried out after emergency cannulation, but the heart could not accept the burden of the circulation. This was the only death in the operating room. The other patient with an atrioventricular canal who died had complete heart block which occurred when the myocardial electrode was removed prematurely after reoperation. The fourth death among patients with congenital heart disease was that of a 7-year-old boy with massive mitral insufficiency. He died of respiratory insufficiency on the second day following annuloplasty.

Rebuilding the aortic valve with Teflon® after destruction by staphylococcal endocarditis failed in a 45-year-old man who had intractable heart failure. The other patient who died was a 50-year-old man with advanced heart failure. The mitral valve abnormality could not be corrected surgically and the left ventricle was too small to accommodate a prosthetic device. Death occurred on the third postoperative day.

TABLE 1.—*Mortality Data on 100 Consecutive Open Heart Procedures Done for a Variety of Conditions*

	Number of Cases	Deaths
Atrial septal defect*	40	....
Ventricular septal defect†	18	1
Mitral stenosis and mitral insufficiency (acquired)	10	1
Aortic stenosis (congenital)‡	9	....
Tetralogy of Fallot	7	....
Aortic stenosis and aortic insufficiency (acquired)	5	....
Atrioventricular canal	4	2
Pulmonic stenosis	3	....
Mitral insufficiency (congenital)	2	1
Aortic insufficiency (acquired)	1	1
Cancer of the ventricle	1	....
Total	100	6

*Includes patients with associated anomalous pulmonary venous return or pulmonic stenosis.

†One patient had coexistent ruptured aneurysm of the right sinus of Valsalva.

‡Includes supra- and sub-valvular stenosis.

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There were two important complications in patients who did not die. A 38-year-old woman in the late stages of the natural history of atrial septal defect had a cerebral embolism from which recovery was prevented by an episode of cardiac arrest. At the time of this report she appeared to be a chronic invalid despite an improving cardiac status. An 8-year-old girl had complete heart block after operation to undo a Blalock anastomosis and carry out total repair of the tetralogy of Fallot. She was asymptomatic three months postoperatively. Two other patients escaped from complete heart block on the 14th and 18th days following operation; in neither did heart block recur.

These results clearly reflect a high degree of cooperation among personnel of the departments of cardiology (both pediatric and adult), radiology and surgery. Another important factor pertains to the meticulous preparation and operation of the rotating-disc oxygenator which was utilized in all procedures.[3] While we would be naive to suggest that few changes will come in the characteristics of the ultimate artificial heart-lung apparatus, we can state that no patient in this experience manifested any complication related to the machine itself or to the period of extracorporeal circulation, which in some cases was as long as two hours. In no case was there any evidence of infection. Renal shutdown or oliguria did not occur. No transfusion reaction could be detected.

Postoperative Hemorrhage

Two of the 100 patients were taken back to surgery the night of the day of operation because of excessive postoperative bleeding. In one patient, who was operated upon for mitral stenosis, the point of bleeding was a small coronary artery in the atriotomy area. The vessel was sutured and recovery then was uneventful. The second patient was a 14-year-old boy with tetralogy of Fallot, who also was bleeding from a small coronary vessel, this time in the area of the ventriculotomy. A suture ligature of arterial silk stopped the bleeding and the patient recovered. In both instances the postoperative bleeding was clearly preventable.

Hypothermia

Moderate hypothermia was used for all adult patients and for all others when prolonged extracorporeal circulation was anticipated. Never in such cases does the rectal temperature go below 30° C., and the usual body temperature is in the area of 32° to 34° C. No heat exchanger is used with the heart-lung machine, but three infra-red bulbs placed beneath the oxygenator provide a ready method of warming the blood. The temperature of the priming blood is usually about 32° C.

Elective Cardiac Arrest

Elective cardiac arrest is used in all cases of ventricular septal defects, tetralogy of Fallot and aortic valve disease, but not in pulmonic stenosis, atrial septal defect, mitral valve disease or atrioventricular canal. Arrest is provided by aortic clamping and myocardial anoxia plus local cooling of the heart with isotonic saline solution at near freezing temperatures.[2] In all patients with acquired aortic valvular disease, left coronary ostial perfusion is also used in addition to local cooling of the heart. The longest period of cardiac anoxia was about an hour and the shortest was ten minutes. We had no difficulty in restoring effective cardiac contraction in any of these patients.

Probably the most important point in the management of elective cardiac arrest is left atrial decompression. In any patient in whom elective cardiac arrest is to be used, a catheter is placed in the left atrium either through the available left atrial appendage or through the right superior pulmonary vein. In patients with aortic insufficiency, it may be necessary to decompress the left ventricular cavity. However, in such cases it is probable that use of a left atrial catheter along with intermittent compression of the left ventricle during the recovery phase will suffice.

Whenever elective cardiac arrest is used, support with a pump-oxygenator is provided for from 10 to 30 minutes after disocclusion of the aorta. Although normal rhythm may resume spontaneously, equipment for electric shock to effect defibrillation must be at hand. Our defibrillator is capable of administering a defibrillatory shock for a period as brief as 1/60 of a second; myocardial burns are thereby prevented.

Tetralogy of Fallot

In patients with tetralogy of Fallot, little of the crista supraventricularis is removed in attacking the infundibular obstruction. Most of the infundibular resection is limited to the moderator band and to that part of the thickened ventricular wall on the septal side of the ventriculotomy. Care must be taken not to resect so much of the hypertrophic myocardium that large coronary arteries are unroofed and ventricular contraction weakened by the trauma. We have encountered no difficulties secondary to pulmonic valvular insufficiency. A Teflon gusset is routinely utilized for enlarging the infundibulum. It seems apparent that Teflon is the material of choice for reconstructing the anterior wall of the right ventricular outflow tract. Woven Teflon is used for the gusset because of its impermeability to blood. The ventricular septal defect of tetralogy of Fallot is closed with interrupted sutures of No. 3-0 silk and reinforced by a patch of Teflon.

Open Mitral Valve Operations

It is our policy now at the Stanford Medical Center to perform all operations on the mitral valve under direct vision with the patient's left side up. Total cardiopulmonary by-pass is effected by peripheral venous cannulation and pulmonary arterial crossclamping. The evolution of mitral valve surgery has gone through several stages from the blind finger fracture to the transventricular dilator, to the open operation with the right side up, and now to the open operation with left thoracotomy and peripheral venous cannulation.[1] Air embolism has not occurred in any of the open operation cases, and in patients with mitral stenosis it is much easier to effect a technically sound repair. In patients with mitral insufficiency, only the open operation has a chance to succeed.

We believe that prosthetic devices that are now available for patients with irreparable mitral valve disease are not entirely acceptable. For example, in patients with mitral stenosis so far advanced that it must be excised for any kind of corrective operation, the left ventricle is so small that placing any prosthetic device on the ventricular side of the mitral ring is out of the question. It seems possible that the ideal device will be one that can be placed on the left atrial side of the mitral ring because of the considerable amount of space usually available in that cavity.

Peripheral venous cannulation is an easy procedure technically. A No. 24 (French) catheter threaded into either the internal jugular vein in the neck or the saphenofemoral junction in the left leg with the tip toward the heart provides a satisfactory venous return for the heart-lung machine. The pulmonary artery is clamped at the level of the transverse sinus to complete cardiopulmonary bypass.

Cancer of the Right Ventricle

Possibly the most interesting case in the series was that of a patient who had a fibromyxosarcoma obstructing the right ventricular outflow tract and invading the main pulmonary artery. Preoperative angiocardiography had shown the presence of the lesion, but during thoracotomy cardiac arrest occurred, causing cerebral hypoxia for some 20 minutes. Cardiac massage or compression was ineffective because of obstruction to the right ventricular outflow tract, and cerebral oxygen want continued until extracorporeal circulation was effected. When that was accomplished, the right ventricle was opened wide and a large mass was excised along with a portion of the right ventricle, the ventricular septum and the main pulmonary artery. After operation the patient did well except for some neurological deficit attributable to the period of generalized cerebral anoxia. At last report, eight months after operation, she was living and functioning well without evidence of pulmonary metastasis. So far as we could determine this was the first case of the successful removal of ventricular cancer and also the first in which a maligant cardiac tumor was excised by a procedure making use of extracorporeal circulation.

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Neurologic Complications of Diabetes

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It is estimated that approximately three million people in this country have diabetes mellitus. Probably about half of these cases are still undiagnosed —"hidden diabetes."[47] Many more cases are expected to occur in the future because of heredity and increased longevity.[33]

The fact that various neurologic complications frequently occur in diabetes is well known. However, the neurologic complications of diabetes are still not given adequate attention by most textbooks of medicine and neurology.[9] For example, the latest edition of a popular American textbook of neurology devotes only two pages to diabetic polyneuritis but has a section of eight pages on Schilder's disease and other forms of diffuse sclerosis that are very rare. The most recent edition of another well-known textbook of neurology covers diabetic neuropathy in 15 lines.

Such inadequate consideration of one of the commonest neurologic disorders is a remnant of an outmoded isolation of neurology from general medicine and reflects a deficiency in medical knowledge. There is a general need for all physicians to be more familiar with the disorders of the nervous system occurring in this disease.

DIABETIC NEUROPATHY

Incidence

The incidence of peripheral neuropathy in diabetes has been sharply debated. Various writers have reported such extremes as zero to 93 per cent. Lack of agreement about diagnostic criteria, special selection of cases and incomplete or unrefined methods of neurologic examination must account for these differences of opinion.[41] In their monograph,[25] published in 1953, Goodman and coworkers reported an incidence of 62 per cent, or 162 cases in a series of 261 diabetic patients.

Ellenberg[15] and Aring[1] expressed belief that neuropathy is not a complication but rather is an integral part of the syndrome of diabetes mellitus. Recent studies demonstrated that most diabetic patients have an elevated threshold for vibratory perception[41] and a slowing of conduction velocity in motor nerves.[42,53]

• Peripheral neuropathy is a common complication of diabetes and may appear as the first manifestation of the disease. It is likely to occur in even the mildest cases of diabetes.

Careful regulation of diabetes is necessary for effective treatment of the neuropathy. In early cases the prognosis is excellent.

The peripheral nerves, autonomic nerves, cranial nerves, spinal cord and brain are all frequently involved in diabetes.

The possibility of diabetes should be considered in the differential diagnosis of many neurologic conditions.

Types and Clinical Features

Several classifications of the varieties of diabetic peripheral neuropathy have been published. A classification based on the site of the pathologic lesions has not been generally accepted, although Ives[31] proposed one. The following classification by Truesch[56] has the advantage of some degree of correlation of the clinical features and the pathologic changes.

Classification of diabetic neuritis (Truesch):

1. Diabetes with pain
2. Ischemic neuropathy
3. Diabetic polyneuritis
4. Diabetic visceral neuritis.

Diabetes with pain ("hyperglycemic neuritis" of Jordan[32]) occurs acutely in uncontrolled, neglected or previously undiagnosed diabetes. Aching pains with cramps and tenderness, especially in the legs but sometimes more diffusely in the arms and trunk, usually worse at night, are the only manifestations. There are no definite objective neurologic signs. Probably some disorder of neural function based on the complicated chemical derangements in unregulated diabetes is responsible. Prompt relief is expected with the control of diabetes.

Ischemic neuropathy ("degenerative" type of Jordan) has an insidious onset in older patients, usually past 40, with evidence of obliterative arteriosclerosis in the legs and feet. The main symptoms are pain, paresthesias and cramps, especially at night. Absence of the deep reflexes, particularly the ankle jerks, is the most common neurologic sign, often without any sensory loss.

The course is usually progressive, but considerable relief occasionally follows improvement of the circulation and careful diabetic regulation. One

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patient that I observed, an elderly diabetic woman with greatly impaired circulation in her feet, had more than a year of partial remission from distressing symptoms until terminal gangrene developed following the death of two close relatives.

Diabetic polyneuritis (including Jordan's "neuritic" type, "neuritis with paralysis" of Root and Rogers,[48] and diabetic pseudotabes) has a relatively acute onset and may occur in younger patients. This variety is frequently called "true diabetic neuritis." The usual sensory and motor symptoms and signs of peripheral neuropathy commonly occur. Loss of vibratory sensation is often the earliest sign.[17] Extreme discomfort and severe disability are frequent at the height of the illness.

Diffuse disturbances of function are often seen, but the lower extremities are usually more seriously affected. At times the clinical manifestations suggest the Guillain-Barré syndrome. The nerve roots are often affected; evidence for this may be found in the distribution of neurologic signs. A significant increase in the total protein of the cerebrospinal fluid occurs in about 50 per cent of these cases.[31]

This is a relatively benign condition despite the severe acute disability. Improvement usually occurs in a few weeks to several months with proper management, although a few patients have some degree of residual permanent disability.[50] Probably the so-called "diabetes with pain," described above, represents a rapidly reversible early stage of this syndrome. Minor signs, such as areflexia and impairment of vibratory sensation, frequently remain permanently in otherwise recovered cases.

Sullivan[55] divided diabetic neuropathic conditions into two groups. The first, *symmetric distal neuropathy,* is the classical syndrome, with more insidious onset, usually in known severe, uncontrolled diabetes. It is predominantly sensory. Adequate control of diabetes is necessary for improvement. The second variety, *asymmetric motor neuropathy,* often has a sudden onset. It may occur as the first indication in mild or latent diabetes. Pain, weakness and atrophy are prominent. Motor and reflex changes are usually asymmetric, and sensory impairment is less prominent. According to Sullivan, the prognosis in this type is good, even with poor control of diabetes. This statement of Sullivan is contrary to the experience of most authorities.

Diabetic visceral neuritis is quite common but often overlooked due to the absence of objective neurologic signs in the usual examination.[9] Early diagnosis and treatment are of the greatest importance because of the severity of disability and poor prognosis after long neglect. In this condition it is assumed that there is involvement of peripheral vasomotor and visceral autonomic fibers and of corresponding peripheral visceral sensory fibers.[39]

Autonomic disturbances frequently are associated with other varieties of peripheral neuropathy but may at times occur alone and appear as the first manifestation of diabetes.[46] The following conditions are commonly seen[49,51]:

(a) Burning paresthesias of the feet.
(b) Gastrointestinal disorders — anorexia, nausea, constipation, abdominal cramps, flatulence, diarrhea (especially nocturnal), fecal incontinence and alternating constipation and diarrhea.
(c) Genitourinary disorders—atonic neurogenic bladder ("cord bladder"), urinary incontinence, impotence.
(d) Disorders of skin temperature regulation and of sweating.
(e) Atrophy of skin; twisting and thickening of toenails.
(f) Orthostatic hypotension.

Case 1. A 77-year-old man had most distressing and persisting burning sensations in his feet and a slight tremor of his right hand that developed after an attack of bronchopneumonia in October, 1960. Neurologic examination in January, 1961, showed signs of early arteriosclerotic Parkinson's disease, hypoactive triceps surae reflexes and loss of vibratory sensation in his feet. The pedal pulses were weak. A glucose tolerance test showed a normal fasting blood sugar but an otherwise fairly severe diabetic pattern. In 1956, after lifelong normal bowel habits, he rather suddenly began to have persisting constipation. No intrinsic gastrointestinal disease was found in careful studies. In retrospect, the sudden change of bowel function may have been the first symptom of visceral neuropathy.

DIAGNOSTIC PROBLEMS

There is no specific test for diabetic neuropathy. The diagnosis can usually be made readily when the typical symptoms and signs such as paresthesia, pain, sensory loss, weakness and loss of reflexes occur in patients with diabetes mellitus, but some patients present difficult diagnostic problems in which diabetes is unsuspected.[5]

Not all the neurologic problems in diabetic patients have a diabetic origin. Such conditions as spinal cord tumor and intervertebral disc degeneration may easily be overlooked when misdiagnosed as neuropathy in known diabetics.[14] For example, a patient I treated, a middle-aged man with neuropathy, did not improve with regulation of diabetes. Porphyria was diagnosed by another consultant. Careful consideration of the entire neurologic picture is obviously necessary to avoid such blunders.[2]

Neurologic complications occur in the mildest cases as well as in the most severe forms of diabetes.[39] In recent years many articles have emphasized the fact that neuropathy may be the first manifestation of diabetes. This point should be stressed. It represents one of the significant recent advances in neurology.

A common error is the failure to diagnose diabetes when typical neurologic complications have already appeared. This problem often occurs in patients who have mild diabetes with little or no glycosuria in routine tests, normal fasting blood sugar and possibly a high renal threshold for sugar.

When diabetes develops insidiously in patients with other unrelated neurologic disorders, a confusing picture can result.

Case 2. A 52-year-old housewife, who was under treatment for previously diagnosed myasthenia gravis, had progressive weakness and fatigue which did not respond to large doses of neostigmine and pyridostigmin bromide (Mestinon®). Signs of mild peripheral neuropathy were finally noted. A glucose tolerance test showed a mild diabetic pattern with a high renal threshold for sugar:

	Blood Sugar (mg./100 ml.)	Urine Sugar
Fasting	125	0
½ hour	139	0
1 hour	188	0
2 hours	194	0
3 hours	194	0

Careful regulation of diabetes for several months was followed by great improvement in the patient's strength and in a reduced requirement for neostigmine and pyridostigmin.

* * *

It is a mistake to rely on a postprandial blood sugar examination to rule out suspected diabetes. Some patients with a family history of diabetes are so afraid of the disease that they do not eat adequately in preparation for a scheduled postprandial blood sugar determination. Others are unable to eat a satisfactory breakfast because of personal aversion to this meal or because of anorexia and nausea accompanying uncontrolled diabetes.

A safe rule to follow in ruling out diabetes as the cause of peripheral neuropathy (if a single blood sugar test is not clearly diagnostic for diabetes) is to have a glucose tolerance test done. The standard is the three-hour test with an oral dose of 100 gm. of glucose. The usually recommended preliminary preparation with three days on a high carbohydrate diet (at least 300 gm. daily[18]) is difficult to secure in many patients with neuropathy because of anorexia, pain, weakness and fear of diabetes. Such preparation is unnecessary in well-nourished patients[57] and only leads to further delay in diagnosis.

In cases of neuropathy with a family history of diabetes and a borderline glucose tolerance curve, the test may be repeated following the administration of corticotropin (ACTH) or cortisone.[8] However, the results of an activated glucose tolerance test may be difficult to interpret. Aring[1] and others[35] stressed the problem of interpretation of blood sugar tests.

FACTORS IN ONSET

Neuropathy usually follows a prolonged period of neglect or poor regulation of diabetes.[13] However, Ellenberg[16] and others[6] pointed out that neuropathy may occasionally be precipitated by the institution of good control by diet, insulin or tolbutamide. Ellenberg accounted for this paradox by supposing that instituting control represents a sudden change from a previous homeostasis, which results in a physiologic aberration, thus acting as a form of stress.

It is well known that many types of stress may precipitate acute neuropathy in diabetes. Such conditions as emotional upsets, trauma, surgical procedures, infections, corticosteroid therapy, myocardial infarction, acute alcoholism and barbiturate intoxication are often cited as precipitating factors. It has also been reported that diabetes may be aggravated by such drugs as the thiazide diuretics[23] and chlorpromazine.[7,29]

In 20 cases reported by Ellenberg, a latent period averaging 18.5 days (total range, 7 to 30 days) occurred from an incident of acute stress to the onset of diabetic neuropathy. One suspects, however, that in many of such cases the neuropathy was present in a latent form long before it was recognized by the patient or the physician.

ETIOLOGY AND PATHOLOGIC FINDINGS

Vitamin B deficiency has often been cited as the main cause of diabetic neuropathy aside from that accompanying severe peripheral vascular insufficiency. Thiamine chloride (vitamin B_1), pyridoxine (vitamin B_6), cyanocobalamin (vitamin B_{12}), the entire B complex and various liver extracts have been generously used in treatment with great enthusiasm in many reports. However, careful studies have shown no indication of specific vitamin deficiency in the diets of the majority of patients with diabetic neuropathy. Most critical observers have failed to demonstrate that special vitamin therapy really accelerates the recovery from neuropathy when the underlying diabetes has been adequately regulated.[52] Vitamin deficiency may coexist with diabetic neuropathy but is probably not essential for its production.[26]

Other toxic factors accompanying uncontrolled diabetes have been widely considered to be the main cause of the neuropathy. These include some disorder of lipid metabolism and various defects in the complicated enzyme systems of carbohydrate utilization. Root [34] expressed belief that the reversibility of diabetic neuropathy indicates that metabolic or deficiency factors are the cause. He concluded that neuropathy results from the abnormal metabolism of unregulated diabetes.

Vascular changes within the peripheral nerves have been noted and emphasized as the cause of diabetic neuropathy. Woltman and Wilder[59] reported decided thickening of the walls and narrowed lumina of intraneural vessels with associated degeneration (demyelination) of nerve fibers in ten cases. In six of the cases the examination was made in extremities amputated for gangrene; in the other four at autopsy. The conclusions by Woltman and Wilder and others from such far-advanced cases, stressing the importance of vascular changes in the cause of diabetic neuropathy, may be debated as not valid for milder cases. The potential reversibility of neuropathy in early cases is usually given as the important argument against a vascular condition as the main factor.

However, in 1959 Fagerberg[19] reported meticulous studies, using special staining techniques, on serial sections of biopsy specimens of the sural nerve in 151 diabetic patients. He demonstrated the frequent occurrence of hyalinization, due to deposits of a mucopolysaccharide, in the thickened walls of intraneural vessels accompanying myelin sheath degeneration in patients with clinical signs of neuropathy.

Fagerberg believed that diabetes is accompanied by a generalized and specific form of angiopathy, as postulated by Lundbaek[38] and others.[12] The early reversibility of diabetic neuropathy may be compared with the arrest or slight improvement which can occur in diabetic retinopathy, where specific vascular changes have been repeatedly demonstrated. The correction of a metabolic derangement would allow for rapid improvement in diabetic neuropathy despite specific vascular changes.

INVOLVEMENT OF CRANIAL NERVES

Lesions affecting the third, sixth, and seventh cranial nerves are not uncommon. Pupillary abnormalities occur in about 25 per cent of cases of diabetic neuropathy. These include inequality of the pupils, sluggish reaction to light, and classical Argyll-Robertson pupils. The occurrence of isolated extraocular paralysis in persons past 40 years of age may be the first symptom of diabetes. Eye muscle disorder of this type usually clears up completely in two or three months with control of diabetes.[24] Whether the lesion is usually in the nerve or in the midbrain cannot be settled from the small number of cases that have been studied at autopsy.[11]

Case 3. The patient was a 41-year-old unmarried woman. Weakness of movements of her left eye developed and in four days progressed to total paralysis of the oculomotor nerve. There were also other signs of peripheral neuropathy. A glucose tolerance test showed a mild diabetic pattern with normal fasting blood sugar and a high renal threshold for sugar:

	Blood Sugar (mg./100 ml.)	Urine Sugar
Fasting	116	0
½ hour	160	0
1 hour	274	0
2 hours	200	0
3 hours	156	0

Complete recovery from the third nerve paralysis followed a few weeks of careful diabetic control.

* * *

Acute facial paralysis, unilateral or bilateral, numbness of the face, dysarthria, and difficulty in chewing and swallowing have all been reported in diabetes, usually associated with other signs of neuropathy. The prognosis for cranial nerve disturbances is generally excellent.

INVOLVEMENT OF SPINAL CORD

It is frequently assumed from the neurologic signs that the spinal cord is affected in diabetic neuropathy.[31] Such signs include (1) severe loss of deep pain, vibratory and position senses, beyond that usually associated with peripheral neuropathy, especially with little or no impairment of superficial sensation, (2) severe weakness and muscular atrophy, with little or no sensory loss, accompanied by denervation fibrillation in electromyographic studies, and (3) extensor plantar reflexes in the absence of cerebral disease.

Lesions of the motor nuclei of the brainstem and of the anterior horn cells and degeneration of the lateral and posterior columns have all been reported in diabetes.[27] Usually these changes have been attributed to arteriosclerosis rather than directly to diabetes.[58] Spinal cord changes have been thought to occur much less frequently in diabetes than in pernicious anemia, but this matter is far from settled because of the small number of cases studied at autopsy.

In 1955 Garland reported 12 cases and in 1957 reviewed "more than 20 cases" which he labelled diabetic amyotrophy.[21,22] In these cases there occurred severe weakness and diffuse atrophy of the muscles of the legs, depressed or absent knee and ankle jerks, and in some cases extensor plantar reflexes. The arms were affected in three cases. Fasciculations were seen in only two patients. Pain was frequent, but there was generally no loss of sensation, in contrast to the usual diabetic neuropathy.

In all cases electromyographic studies showed abnormalities, usually a degree of fall-out of motor units; in two cases there was synchronization of motor unit activity; fibrillation activity was scanty or absent. In nearly all cases excellent recovery occurred with strict diabetic control, but some muscular atrophy and loss of reflexes remained.

Whether such cases as those described by Garland may represent a curable form of amyotrophic lateral sclerosis is not settled. Matthews[40] reported finding abnormal glucose tolerance patterns in several patients with amyotrophic lateral sclerosis who later died. In a recent survey of ambulatory diabetic out-patients at the Mayo Clinic, Mulder and coworkers[42] reported electromyographic changes, fibrillation potentials or a decided reduction of action potentials in 38 of 43 patients with mild peripheral neuropathy.

BRAIN DISEASE

It is often stated that diabetes rarely affects the brain directly, except through damage produced by arteriosclerosis. This is in contrast to many other toxic and metabolic disorders, such as myxedema, pernicious anemia, porphyria, alcoholism and lead poisoning. Probably a diffuse encephalopathy occurs more commonly than is recognized in patients with poorly regulated diabetes. Such symptoms as irritability, inner tension, disturbing thoughts and difficulty in concentration may reflect considerable cerebral dysfunction in patients with no definite abnormalities in the usual neurologic examination.

An argument against the existence of any significant specific encephalopathy in diabetes is the lack of electroencephalographic changes. Joslin's group[34] has reported no higher incidence of abnormal electroencephalograms in uncomplicated diabetes than that found in normal nondiabetic persons (8 per cent in both groups), in contrast to a high incidence of abnormalities in patients who had had frequent insulin reactions (51 per cent of cases). However, a study should be made of the electroencephalograms of patients before and after regulation of uncomplicated diabetes.

Only a few pathologic studies of the brains of diabetic persons without definite vascular disease have been reported.[10] Glycogen droplets in the perivascular lymph spaces, in the pyramidal cells, and in the glial cells have been described. Dilation of the cerebral blood vessels, arachnoid thickening, glial proliferation, foci of edema with lymphocytic infiltration, and displacement of the ependyma have also been reported.

In 1957 Hagen[28] reported constant degenerative changes in nerve cells in the tuber cinereum and in the supraoptic and paraventricular nuclei of the hypothalamus in the brains of 17 patients who died of diabetes and its complications. More definite clinical data were not given in this report.

Severe, extensive, irreversible cerebral degeneration following repeated bouts of hypoglycemia has been carefully documented.[20] Such cases should be excluded as far as possible from studies of the cerebral changes in uncomplicated diabetes.[10]

As De Jong and many others have pointed out, arteriosclerosis is an extraordinarily frequent accompaniment of diabetes mellitus, even in young patients. Disorders of the general circulation due to cardiac arrhythmia, orthostatic hypotension and myocardial insufficiency, along with local arteriosclerotic changes in the cerebral blood vessels and their sources, may be responsible for transient and permanent cerebral complications. These can be both focal and diffuse, with all the usual losses of various sensory, motor and intellectual functions, and are quite common in diabetic patients. Severe cerebral infarction probably occurs much less frequently than myocardial infarction in diabetes.[34]

The ordinary "functional" mental disorders—the psychoneuroses, schizophrenia and manic depressive psychosis—are no more common in diabetics than in the general population.[34] Occasionally, however, the discovery of diabetes acts as a precipitating factor for a severe anxiety reaction[43] or even a psychotic reaction in a predisposed person. An attack of hyperventilation in an anxious patient may be difficult to distinguish from a hypoglycemic reaction.[43] Senile psychosis is common in older diabetic patients.

Case 4. A 66-year-old spinster complained mainly of nervousness, depression, disturbing sexual thoughts and fear of losing her mind for many years, gradually getting worse since the death of her mother from diabetes in 1959. She also had been having frequent headaches, alternating constipation and diarrhea, fatigue, chest pains and cramps in her feet and legs during the same period. Consultation was requested because placement in a psychiatric hospital had been advised for her emotional instability and depression.

Physical examination on February 20, 1961, showed moderate obesity, blood pressure was from 150 to 170/100 mm. of mercury, otitis externa and absence of the posterior tibial pulses. Neurologic signs included a positive Romberg test, bilateral intention tremor, static ataxia of the left hand, generalized hyperactivity of the deep reflexes with hypoactive triceps surae reflexes, impaired vibratory sensation in both feet, hyperactive jaw jerk, a perioral tremor and a prominent snout reflex.

On February 22, 1961, an electroencephalogram was diffusely abnormal with paroxysms of high voltage slow (3 to 5 per second) waves, more prominent during hyperventilation. A previous electroencephalogram, done in 1956 because of headaches, was within normal limits.

On February 21, 1961, a glucose tolerance test was reported:

	Blood Sugar (mg./100 ml.)	Urine Sugar
Fasting	174	0
½ hour	400	1.0%
1 hour	500	2.0%
2 hours	500	1.0%
3 hours	294	0.75%

The patient had considerable improvement in most of her symptoms and in mental state after one month of treatment with diet and small doses of insulin, although the neurologic signs were unchanged. The glucose tolerance test was ordered because many routine urine and single blood sugar examinations had been reported normal during the past five years. A younger sister was also recently discovered to have a mild diabetic neuropathy.

TREATMENT

The only really effective specific measure for the treatment of diabetic neuropathy is strict regulation of diabetes by diet and insulin or oral antidiabetic drugs. Supplementary vitamin B complex, oral or parenteral, should be given when there is suspicion of a deficiency. A parenteral preparation is particularly indicated in patients with anorexia and in those with diarrhea. However, the use of vitamins is generally overdone and can be a bad mistake if it diverts attention from strict control of diabetes. Parenterally administered liver extracts, both ordinary and that from pregnant mammals, probably act only in a nonspecific way unless there is a deficiency in the absorption of vitamin B_{12}.

Various supportive measures should be used just as in other types of peripheral neuropathy. Sedatives, analgesics, padded foot-boards, heat, braces and exercises may all be indicated in different cases. Special treatment should be given for bowel and bladder disorders. When severe orthostatic hypotension does not respond to pressor drugs, leg bandages and an abdominal binder may be used.[45]

Neurogenic osteoarthropathy[3] (Charcot joint) is fairly uncommon; it should be treated as conservatively as possible, but amputation may be necessary. Sympathectomy for pain is usually contraindicated.[4,44] Perforating neurogenic ulcers of the feet usually heal when given good care and the underlying diabetes is well controlled.[36,37]

COMMENT

The need for careful evaluation of the patient's psychiatric status by the physician treating a diabetic patient is obvious. The patient's personality pattern, habits, life situation, basic intelligence and possible intellectual deterioration, all should be considered in planning a treatment program. Diabetes mellitus is a very chronic disease, often with little initial disability, requiring the active cooperation of the patient in an unpleasant regimen.

The very frequent neglect of diabetes until serious neurologic — and other — complications have appeared is a serious problem in medical practice.[30] Some confusion still exists about the criteria for adequate treatment or control.[1] Personality disorders and lack of satisfactory instruction about diet are very common causes of poor control.[54] The proper management of diabetes, particularly in the early stages, requires a great deal of the physician's time.

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Cytogenetic Abnormality in Man

Wider Implications of Theories of Sex Chromatin Origin

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• Female nuclei may be identified by means of sex chromatin. In general the number of sex chromatin bodies is one less than the number of *X* chromosomes. An exception to this rule is a case of sex chromatin-positive *XO* Turner's syndrome. This case suggests the possibility of sex chromatin-positive *XY* males, and it may be evidence for chromosomal differentiation.

NUMEROUS EXAMPLES[18] of cytogenetic abnormality in man are now known. The most clinically significant of these is trisomy 21, the Down's syndrome (mongolism) in which there is an extra chromosome 21 (in some cases the spare being attached to another chromosome). Other variants of simple trisomy for autosomes are known[18] but most of the varieties of cytogenetic abnormality involve sex chromosomes. The reason for the preponderance of sex chromosome anomalies is at least twofold. For one thing zygotes or individuals with deficient or augmented sex chromosome complements are more apt to be viable than are zygotes lacking or having extra autosomes. Secondly, sex determination by nuclear methods is a relatively simple procedure which enables screening of large populations for abnormalities involving the *X* or female chromosome. No such screening technique is available in the case of autosomes or of the *Y* chromosome. Hence an element of selection is introduced.

The sex chromatin body of Barr was first observed in the neuronal nuclei of female cats,[3] and the discovery was soon extended to humans. Sex chromatin is an approximately 1 micron clump of chromatin (desoxyribonucleic acid—DNA) which appears usually at the periphery of female nuclei. It occurs either in low incidence or not at all in the nuclei of male cells. Although this sex dimorphism is usually easily demonstrable in biopsy of skin or other tissues, a simpler procedure is to stain tongue-blade scrapings of buccal mucosa. In addition, vaginal smears may give excellent results. Buccal smears from normal males have a sex chromatin incidence which according to some reports is very low[14] or, according to others, is zero.[19] Buccal smears from females usually show well-defined sex chromatin bodies in a significant number of nuclei although in my own experience this seldom exceeds 40 per cent and false negatives do occur. (Several negative smears done on different occasions are a minimal requirement when dealing with a female phenotype).

The significance of sex chromatin in the diagnosis of intersex problems was not lost on the initial discoverers and they and others soon found cases of discrepancy between the sex of the soma and the cell nuclei. The greatest discrepancy occurred in cases of Klinefelter's and Turner's syndromes. About 50 to 80 per cent of infertile males with small testes, with or without gynecomastia, have "female" nuclei. Conversely, short females with sexual infantilism, often with webbed neck, and other peculiarities, were found to have "male" nuclei which lacked sex chromatin bodies. Thus sex chromatin-negative patients with Turner's syndrome were thought to be genetic males, while sex chromatin-positive patients with Klinefelter's syndrome were considered to be genetic females. When, more recently, chromosome determinations became possible, it was seen that Klinefelter patients had 2 *X*'s and 1 *Y* chromosome, and hence were not cytogenetic females but rather *XXY* males. Contrariwise, patients with Turner's syndrome have only one sex chromosome, a single *X*, and thus are more reasonably considered "*XO*" females. It was recognized that one could not conclude from the presence of sex chromatin that the individual was a genetic (*XX*) female and conversely. The more neutral epithet *nuclear sex* was adopted to refer to the sex chromatin status.

Such chromosome determinations did, however, appear to confirm the original assumption that the sex chromatin body was formed by the conjunction of both (or portions of both) *X* chromosomes.

Several investigators published photographs clearly showing a double or "bipartite" structure in the sex chromatin body, often with double coiling threads extending to a nucleolus.[15,25,26] It was somewhat awkward that in general no chromatin body was formed by the single *X* chromosome in male cells; however, such a roughly half-size chromatin

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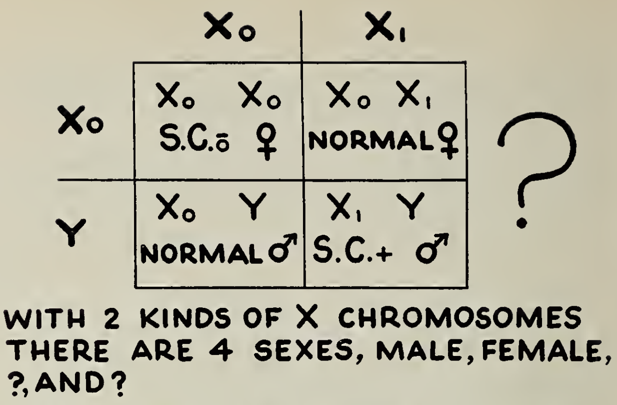
mass would be very close to the limits of optical resolution, and in any case chromatin masses were in fact occasionally seen in male cells.

Despite the difficulties mentioned, the two-*X* theory of sex chromatin remained preeminent, partly because no more plausible theory was available. It was only with the discovery[10] of a woman with three *X* chromosomes that a new theory became mandatory. Under the 2 *X* theory this woman should have had at most one and one-half sex chromatin bodies per nucleus. In fact a considerable number of the buccal smear nuclei showed two sex chromatin bodies. Soon further varieties of three *X*[7] and even four *X*[6] persons were reported. They included Klinefelter males with *XXXY* and *XXXXY* sex chromosome complements as well as *XXXX* females. Multiple *X* males tend to be mentally deficient and are always infertile while extra-*X* females are often virtually normal; but more pertinent here is the fact that the largest number of sex chromatin bodies per nucleus is always one less than the number of *X* chromosomes.

In the meantime Ohno[22] had described a single darkly stained chromosome in female rat liver nuclei in prophase. Ohno concluded that this dark ("heteropyknotic") presumably *X* chromosome was responsible for the sex chromatin body in the rat, and that also in higher mammals only one of the *X*-chromosomes normally participates in the formation of the sex chromatin body. The other *X* chromosome is presumed to remain isopyknotic, staining like the nonsex chromosomes, the autosomes. In individuals with more than two *X* chromosomes only one remains isopyknotic while the others tend to form sex chromatin bodies. If only one *X* chromosome is present (males) it is always isopyknotic, and hence males are sex chromatin-negative.

The one-*X* theory of sex chromatin origin can account for all the observed clinical data, and of course satisfactorily explains the absence of sex chromatin in males. That *X* chromosomes are not necessarily identical (except for allelic differences) is shown by Yerganian's and Taylor's evidence for differing rates of DNA synthesis in the two *X* chromosomes of the hamster.[28,29] The suggestion that the sex chromatin body may represent a kind of "precocious prophase"[17] of one *X* fits the observation of differing replication rates. Thus there is collateral evidence for something more than an allelic difference between the two *X* homologues.


WITH 2 KINDS OF X CHROMOSOMES THERE ARE 4 SEXES, MALE, FEMALE, ?, AND ?
?

	X_0	X_1
X_0	X_0 X_0 S.C.ō ♀	X_0 X_1 NORMAL ♀
Y	X_0 Y NORMAL ♂	X_1 Y S.C.+ ♂

Figure 1.—Sex chromatin inheritance to be expected on a triheterosomic theory of sex determination. See text.

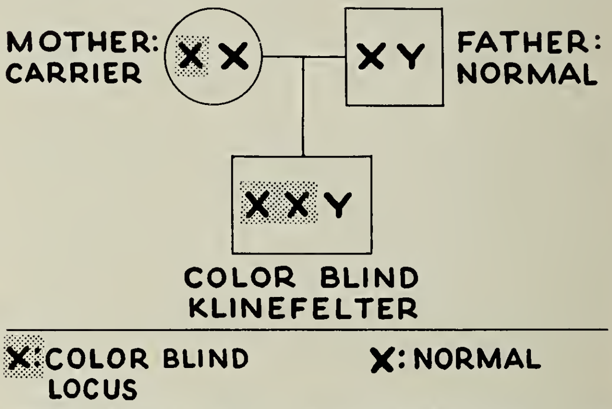


Figure 2.—Inheritance of a sex-linked recessive illustrating maternal nondisjunction at second meiosis. See text.

Unfortunately, this solution of the sex chromatin mystery raises at least as many problems as it settles. It will be remembered that sex is determined in man by the male gamete. The mother, being *XX*, can provide only an *X* chromosome to the child, while the *XY* father can provide an *X* or a *Y*. If there are two kinds of *X* chromosomes, X_0 (does not form sex chromatin) and X_1 (forms sex chromatin), a normal mother would be X_0X_1 and a father would be X_0 (that is, sex chromatin-negative) *Y*. However, other things being equal, in the next generation there should be not just two kinds of sexes, but 4—that is, X_0X_1 (normal female), X_0X_0 (sex chromatin-negative female), X_1Y (sex chromatin-positive male) and X_0Y (normal male). (See Figure 1). Since aberrant types either do not occur or at least do not occur with nearly the expected incidence, the theory cannot be accepted in its simplest form.

A proposal by Ohno[21] modifies the theory by assuming that only the *X* of paternal origin can form the sex chromatin body. Since the male *X* is always of maternal origin, males will always be sex chromatin-negative. Ohno's theory implies[16] that we should expect to find sex chromatin-negative *XXY* Klinefelter's syndrome (if 2 *X*'s come from the mother) and sex chromatin-positive *XO* Turner's syndrome. Shortly after this implication was pointed out, Grumbach and coworkers[9] reported just such a case of Turner's syndrome.

Before this "confirmation," however, Stewart[27] had already refuted the theory by pointing to the evidence on color blindness. There is at least one case of Klinefelter's syndrome[21] in which the subject is color blind even though his father is not (See Figure 2). Since his mother was a known carrier, the patient can be assumed to have X chromosomes homozygous for the color blind locus, and hence both the X's in the XXY complement came from the mother. Nonetheless, the patient was sex chromatin-positive. (Ohno later abandoned the paternal-X origin theory for other reasons.[23])

Yerganian[29] also suggested two kinds of X chromosomes in accounting for various intersex states as well as for sex chromatin. Geerts[8] modified Yerganian's suggestion in order to rule out the difficulties described above (that is, sex chromatin-negative XX females, or sex chromatin-positive XY or XO individuals). Geerts assumed that there are two kinds of X: X_1 and X_2. X_1 forms the sex chromatin body only if X_2 is also present in the nucleus. This proviso thus explains why most of the reported cases of XO Turner's syndrome are sex chromatin-negative. In order to get around the difficulty mentioned above of four kinds of sexes, X_1X_2, X_1X_1, X_1Y, and X_2Y, it is simply assumed that fertilization cannot occur between sperm and ova if both have X_1 chromosomes or if the ovum is X_2 and the sperm is Y. Or, to put the matter in a logically identical way, X_1X_1 and X_2Y zygotes are nonviable.

Although from a theoretical standpoint it would be hard enough to account for a mechanism rendering X_1X_1 or X_2Y fertilizations impossible, Geerts' theory is ruled out in any case by Grumbach's report of a sex chromatin-positive XO person with Turner's syndrome. The case described above of a sex chromatin-positive color blind Klinefelter patient in which both the X chromosomes came from only one of the maternal homologues[21] is also evidence against Geerts' theory.

One more general objection may be made to any theory which rejects particular zygotes such as X_0X_0 or X_1Y. This objection concerns the inheritance of sex-linked recessive traits. It will be remembered that such a trait, as for example classical hemophilia, is due to a gene on the X chromosome. The particular gene for hemophilia is almost invariably offset, when it occurs in a woman, by its normal counterpart on the other X chromosome. Men, having only one X chromosome, are fated to be hemophiliacs if their X has the defective gene, since there is no normal offsetting allele on the Y chromosome. A mother bequeaths to her sons one or the other of her X chromosomes. Under the theory being discussed, a son can only get an X_0 chromosome. It would follow, then, that if the X_0 harbored the defective gene for hemophilia, a majority of a carrier's sons would be hemophiliacs, and conversely, if the X_0 is normal, a minority of the sons would be diseased. In fact, it is well established that on the average half the sons of a carrier mother will be affected and half will be normal. Thus the X's are distributed at random and there is no special "male" X.

AN OPPOSITE THEORY

Now, as to a theory at the opposite extreme[1]: This hypothesis holds that two sets of autosomes (that is, 44) suffice to prevent sex chromatin formation by *one* X chromosome. This would account neatly for all the facts in most of the reported cases. It is more satisfactory than Geerts' theory insofar as it preserves the simple XY sex determining mechanism, and requires no elaborate assumptions regarding "impossible" zygotes (that is, X_0X_0, X_1X_1, X_2Y, etc.) The theory can even account for Grumbach's sex chromatin-positive XO Turner's syndrome by assuming two biological errors instead of one: to wit, nondisjunction resulting in a defective sperm or ovum, and a developmental error in which the single X escapes autosomal suppression of heteropyknosis. (An alternative explanation requiring only *one* biological error is given below.) The next crucial question then becomes: Does heteropyknosis or isopyknosis in the X chromosome represent a permanent alteration (that is, differentiation) or does it merely indicate the influence of the autosomes also present in the nucleus?

Geerts preferred to believe that certain kinds of zygote (X_1X_1, X_2Y) were impossible, since he wished to avoid the other horn of the dilemma, namely, that one X chromosome *differentiates* in somatic cells and acquires the capacity to form the sex chromatin body. In fact, there would seem to be more evidence for the latter solution than for the former. But before reviewing the evidence it might be well to mention some cytogenetic technicalities. The word *heteropyknosis* has already been used in describing the segment of the X chromosome which is presumed to form the sex chromatin body. In many species of plants and animals one or more chromosomes, usually sex chromosomes, stain out of phase with the autosomes. That is to say, the sex chromosomes may stain dark when the autosomes are lightly stained, or conversely (and less commonly) light when the autosomes are dark. This aberrant staining phenomenon is referred to as "allocycly," and the sex chromosomes when darker than the autosomes are said to exhibit "positive heteropyknosis" (and if lighter, "negative heteropyknosis"). Nonallocyclic chromosomes are said to be "isopyknotic." It should be borne in mind in the ensuing discussion that differentiation of the X chromosome is in the direction of allocycly, the *capacity* to exhibit heteropyknosis. Whether or not the allocyclic X produces the sex chromatin body at a given time in a given nucleus probably depends on other factors.[15]

The reasons for favoring differentiation of one *X* chromosome will now be discussed. It has been found that the sex chromatin body does not appear in cells in the earliest stages of mammalian development. For example, Park[24] did not find sex chromatin in the human embryo before the sixteenth day (at this stage the embryonic disc is well developed and the primitive streak is evident). Similarly, Austin and Amoroso[2] did not find sex chromatin in cat embryos until the end of the second week. Unfortunately, of course, this is not proof of chromosomal differentiation. If one agrees that sex chromatin is not expressed in some metabolic situations, one can easily extend this inference to the early embryo.

There is evidence, at least in the case of the frog,[5] that the nucleus itself differentiates. If nuclei are exchanged in early cell stages of the embryo, they are capable of supporting normal development. As the embryo ages, its nuclei become less and less capable of supporting healthy embryonic development when transplanted into early cell stages. This would seem to indicate that nuclei from specialized tissues have differentiated and are capable of supporting further development only in those tissues. Such differentiation cannot affect all parts of the nucleus. There is evidence,[12] for example, that the nuclear membrane breaks down and is catabolized with each cell division, being formed anew from the endoplasmic reticulum of the cytoplasm. The membrane, therefore, is an unlikely candidate for differentiation. Somewhat similar arguments apply to nucleoli, which in any case probably represent actual chromosome loci. Other nuclear organelles might be possible candidates and can only be eliminated by further evidence. Nevertheless, the evidence available points to the somatic chromosome as the ultimate talisman of tissue and cellular differentiation. Thus the theory of sex chromatin as representing differentiation of an *X* chromosome does not lack collateral support.

What direct tests are available to establish such differentiation? One approach might be to select, in cultures of female cells, for a strain of cells in which one *X* chromosome has been lost. If the differentiation hypothesis is correct, we should be able to select sex chromatin-positive *XO* cell lines. At the moment techniques of somatic cell genetics are not sufficiently sophisticated to permit performing such selection readily. An alternative approach is presented by Böök's case of an *XXY* triploid (69 chromosome) boy.[4] Sex chromatin in the skin culture cells of this boy has not been reported but a strict inference from the autosomal-suppression theory would lead us to expect the cells to be sex chromatin-positive. However, when such 69 chromosome cells undergo the common tetraploid type of change in vitro (in this case forming a hexaploid cell) with doubling of the chromosome complement, we might still expect (despite four *X* chromosomes) only one sex chromatin body per nucleus instead of the usual tetraploid two, for we should then have three suppression units in the form of 6n-6 autosomes. On the other hand, if the *X*'s are irreversibly differentiated, we would have two sex chromatin bodies in hexaploid cells.

In considering at what stage the *X* chromosomes might become differentiated, it may be recalled that sex chromatin does not appear in the embryo until about the end of the second week. Conceivably, it is at this stage that the *X* chromosomes tend ordinarily to differentiate toward heteropyknosis. One set of autosomes, however, prevents the differentiation of one *X* chromosome. But once this developmental stage is passed, the *X* chromosomes are determined, either sex chromatin-positive or negative.

Apart from the means of testing described above, what does this theory imply as regards unreported cases of sex chromosome anomaly? If sex chromatin-positive *XO* individuals are possible, then sex chromatin positive *XY* males seem a possibility. It is pertinent here that the incidence[18] of sex chromatin-positive male infants is about 2.5 times higher than the estimated incidence of *XXY* Klinefelters in the general male population. Might some of the sex chromatin-positive male infants have in fact *XY* sex chromosome complements? If so, does the heteropyknosis of the single *X* chromosome result in any developmental anomaly?

"Mosaics"—individuals with mixed chromosomal cell types—may also shed light on the question of differentiation. Cases have been reported,[10] for example, in which roughly half the cells were *XO* and half were *XXX*. Such a situation strongly suggests nondisjunction in cell division in the early embryo, with the two daughter chromosomes of one *X* homologue going to the same pole. This would give *XO* to one cell line and *XXX* to the other. If the nondisjunction occurred before the end of the second week, we would expect the *XXX* cells to have double sex chromatin bodies while the *XO* cells would be negative. If nondisjunction involved the sex chromatin-negative *X* and occurred after *X* differentiation, we would have only single sex chromatin bodies in both *XO* and *XXX* cells. This mechanism could offer a single-error explanation of Grumbach's case, since the *XXX* cell line could subsequently have been lost (or excluded among the extra-fetal portions of the embryo).

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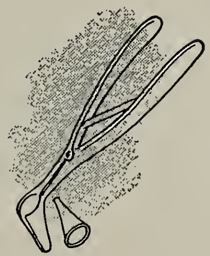

General Anesthesia for Eye Operations

A Consideration of Some Pertinent Factors Involved in Administration

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GENERAL ANESTHESIA for surgical operations on the eyes is a means of obtaining the best surgical working conditions with safety to the patient and a minimum of postoperative disturbance. Better physical control is maintained over the patient while the eye is open and subject to loss of fluid. It is no longer necessary to depend on the cooperation of the patient not to cough or move at a critical moment. Moreover, there is always the possibility that unless he is asleep a patient who is normally most cooperative, but who has a tendency to claustrophobia, will feel confined under the drapes and become unmanageable. With children, general anesthesia is almost the only means of obtaining satisfactory surgical working conditions.

The surgeon having a trained anesthesiologist in attendance has the assurance of ready assistance in the management of the patient in the event of complications, such as allergic reactions, respiratory depression, congestive failure or cardiac arrest. He also has with him a qualified person available to administer other medication, such as insulin or glucose to a diabetic, or acetazolamide (Diamox®) to a patient with glaucoma. Further, medical problems of a cardiorespiratory type may be leavened by the selective use of positive pressure respiration with suction to remove secretions from the bronchial tree.

In operations involving surgical opening of the eye, it is most desirable to have the patient as quiet as possible during emergence from anesthesia and in the immediate postoperative period. A simple straightforward anesthetic procedure with few drugs is easier to keep in balance than one which is more complicated. When a great many drugs are used, especially where one drug is used to modify the action of a second, an uneven or stormy postoperative period may ensue, for not all drugs reach their peaks of effectiveness at the same time. Thus, a technique which produces a very desirable effect during operation may result in a very undesirable one some time later when the procedure is over but the eye perhaps is still vulnerable to postoperative injury.

• In the administration of general anesthesia for surgical operations on the eye, care must be taken to consider the patient's total physiological condition. A patient with eye problems may have generalized changes of more than moderate extent. Most patients are in the age group in which the incidence of cardiovascular and pulmonary problems is relatively high. If the patient is in a younger age group, perhaps diabetes or the collagen diseases must be suspected. Care must be taken to prevent undue strains to the eye during and immediately after the operation.

Constant care and an awareness of possible complication is necessary for successful management in these cases.

Drugs and agents which may be involved directly or indirectly in an anesthetic procedure fall into loose classifications. First are the hypnotics which produce a sleeping state but do not necessarily cover pain or surgical stimulus. Barbiturates are the main item in this group. Also in this group might be included most of the tranquilizers. If a hypnotic drug is relied upon for the major part of an anesthetic, the level will alter rapidly with changes in the level of stimulation; and at the end, when the stimulation has ceased, the patient may be in respiratory depression.

The second group includes the analgesics, largely the opiates, such as morphine and meperidine (Demerol®). These drugs control or relieve pain, and may or may not produce a sleeping state. Nitrous oxide belongs in this group, but used alone in safe concentrations it will not produce complete general anesthesia.

Third would be the so-called complete or 100 per cent anesthetic agents, such as the ethers, cyclopropane, chloroform and fluothane. These agents used alone are all capable of producing a full and adequate state of general anesthesia, covering both hypnotic and analgesic needs.

Next would come drugs and materials used to maintain and adjust physiological processes, such as oxygen, fluids, vasopressor agents, atropine-like drugs and relaxants of all kinds. These are neither hypnotics nor analgesics, but serve in the control and maintenance of bodily functions.

Finally, there are drugs that, although not administered by the anesthesiologist, must be taken into

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consideration by him. They are drugs that are being taken by the patient for other purposes, usually but not always under the supervision of a physician. Among those that most frequently become problems are drugs of the rauwolfia serpentina group, some of which can cause a protracted and resistant state of hypotension when the patient is placed in a state of general anesthesia. Cortisone compounds have become a problem because of the atrophy of the adrenals which may go with prolonged use. This impairment of adrenal function may result in resistant hypotension in the face of stress. Tranquilizers also must be taken into account. They are supposed to potentiate the action of other hypnotics and analgesics and to have a mild action of their own. It is my opinion that they are in themselves very potent drugs. They tend to produce a lowered respiratory exchange and the patient's respirations may need constant assistance under the conditions of general anesthesia.

Premedication should not be excessively heavy. It is far easier to add drugs intravenously before or during the procedure than to overcome the effects of an excessive dose which results in inadequate respirations or greatly lowered blood pressure. If possible, the very long-acting drugs are best avoided so that postoperatively the drug effects will wear off in a reasonably orderly manner. Secobarbital (Seconal®) or a similar barbiturate is usually given two hours before scheduled time in 0.1 gm. dose. For children the dose is reduced. Meperidine (Demerol®) is preferred over morphine as an opiate as it is shorter-acting and less apt to produce nausea. The dosage used varies from 100 mg. to 12.5 mg., depending on the size and age of the patient. Atropine or scopolamine is given in doses of from 0.4 mg. to 0.2 mg. to produce satisfactory drying of secretions and to aid in limiting reflex activity. Patients with history of drug sensitivity do very well with diphenhydramine (Benadryl®) 50 mg. substituted for the barbiturates. Such patients usually arrive in the surgery relaxed but not asleep. While occasionally a patient does not cooperate well, respiratory depression and its associated pulmonary congestion and occasional mania are avoided.

Induction is usually with pentothal in 2 per cent solution, small doses being given until introduction of the oral airway is tolerated. Small doses of meperidine are given between the repeated doses of pentothal, until a light sleeping state is established which is not readily upset by pain or other stimulation. Further doses of appropriate drugs are given as the situation demands in order to maintain an even state of anesthesia. Preparation of the patient by the surgeon for operation is usually carried out while this level is being established, the gradually increasing stimulus being well suited for this purpose.

A clear airway is essential but can usually be obtained without tracheal intubation. A rubber oral airway is put in place and oxygen insufflated into the airway under the drape. In many cases the airway is greatly improved by the placement of a small, firm pillow under the shoulders to throw the head back a little. The patient then usually can maintain an adequate respiratory level without assistance. Oxygen insufflated at a rate of 2 to 3 liters a minute will not irritate the pharynx and is sufficient to provide a suitable atmosphere under the drapes, which without the addition would become deficient in oxygen and high in nitrogen, carbon dioxide and water vapor. Other anesthetic agents in the gas or vapor state are not well suited to insufflation under the drapes as it is almost impossible to accurately judge and control the concentrations which tend to build up. While adding some volatile agent to the insufflation would possibly speed the postoperating waking, smoothness of awakening is more to be desired than rapidity.

The surgeon may use a local anesthetic if he wishes, but it is by no means necessary. If he does, general anesthesia may not have to be quite as deep as it would be otherwise, but close cooperation between the members of the team is essential. In operations for correction of squint, traction on the muscles may cause a slowing of the pulse of the vagus type. This effect seems to be particularly severe where the medial rectus is under traction. Atropine, scopolamine and to a lesser extent meperidine all help reduce reflex activity of this type. Gentle continued traction can be used to fatigue the mechanism where blocking the enervation of the muscle is not practical.

Tracheal intubation is a very important technique in anesthesiology. It gives relative assurance of a clear airway, the opportunity to apply positive pressure respirations at any time and a protection of the respiratory passages from possible aspiration of secretions, blood or stomach contents. It has made possible the relatively recent advances in chest and cardiac operations. However, since great relaxation and a deep level of anesthesia are not generally required in operations on the eyes, intubation is seldom required. Specific indications for it are a need for positive pressure or respiratory assistance or for suction of secretions or protection of respiratory passages from aspiration of secretions, blood or stomach contents.

Need for respiratory assistance can be anticipated for patients having cardiac insufficiency with edema, for patients with pulmonary fibrosis and for those with very large abdomens. Suction is likely to be necessary for patients with chronic draining sinusitis, and protection from aspiration of blood must be provided for patients undergoing dacryocystorrhinostomy or removal of an orbital tumor. If the ocular operation is in connection with an accident involving other injuries, provision must be made for preventing aspiration of stomach contents.

The main difficulty with routine intubation is in the postoperative state, when persistent coughing may be a problem. Use of topical anesthesia to prevent irritation makes the patient vulnerable to aspiration of fluids or secretions during the recovery period and only delays the period of postoperative coughing. Some topical agents cause edema or irritation of the mucous membrane as they wear off.

An intubated patient must be constantly attended. The presence of a tube alone does not guarantee a clear airway. Although it enables one to assist the inspiratory phase of respiration, care must be taken not to interfere with expiration. Slight positive pressure on expiration can cause impaired filling of the heart and venous engorgement. Venous engorgement in turn can cause greatly increased intraocular pressure.[1] It must be borne in mind that the mere presence of a tube reduces the diameter of available air passage, not only by the thickness of the walls of the tube but further by fittings which slip into the tube. and still further by bends in connectors and adapters. Any reduction in available diameter increases the resistance to flow of gases to the fourth power. Thus, if the available diameter were reduced to one-half, the resistance to flow would increase 256 times. Other factors involved in resistance, such as the length of the tube, are dealt with at length by Macintosh and Mushin.[8]

Patients with severe pulmonary impairment, such as those with pulmonary fibrosis, require intubation both to clear secretions from the air passages and to aid respiration and circulation of blood through the pulmonary circuit. For such patients, high oxygen levels should be avoided, for in them, having as they do normally very high carbon dioxide levels, the respiratory drive mechanism is based on mild anoxia. If high oxygen levels are reached, these patients cease voluntary respirations and must be assisted, and when the operative procedure is completed it may be difficult to reestablish a voluntary respiratory pattern.

If laryngospasm develops during induction, the use of succinylcholine in 10.0 mg. dose usually relieves it. This drug has the advantage of leaving the laryngeal cords in the open position, and if anesthesia is light and the dosage small the patient will continue to breathe without assistance.

Lincoff,[7] Dillon[3] and Claythorne[2] among others have written about the increased intraocular pressure resulting from the administration of succinylcholine. This is due to spasm of the extraocular muscles, placing the eye under tension. The effect is not as pronounced with the patient under general anesthesia, and it is transient, lasting only as long as the drug action lasts.[6] This elevation in pressure is not so great as that which can be caused by venous stasis or contraction of the orbicularis muscle.[1] Before opening the eye many surgeons apply gentle pressure to it for a few minutes to lessen the fluid content within the rigid eye structure and thereby reduce the pressure from within during the operation.

My experience leads me to believe that succinylcholine used with care and in moderation under the conditions of light general anesthesia does not produce significant increase in intraocular pressure during the period the eye is open.

In a period of two years I administered general anesthesia for ocular procedures in 465 cases. In almost all of them an intravenous technique with oxygen insufflation was used. Children under 2 years of age were usually given ether anesthesia. Nine of the patients were intubated, for various reasons; and in one case operation was cancelled because of a purulent postnasal discharge.

Constant monitoring of the patient's condition is essential for the successful management of the anesthetic and the safety of the patient. Electronic cardiac monitor units which give an audible signal may be used. However, as with anything of a mechanical nature, these too must be checked from time to time to keep them free of error. I prefer a long stethoscope, with a very large diaphragm which is placed over the precordial area. If it is placed a little high it will also serve to check on the left main bronchus. The bows have been loosened so that one side can be placed in an ear while the other side rests against the cheek, leaving one ear available for conversation while the other monitors cardiac and respiratory sounds. Both sides may be placed in the ears if more careful listening is necessary. Hearing is kept more attentive by shifting from one ear to the other for monitoring purposes. For a time I used a hearing aid ear piece which fitted into the ear and was connected to the stethoscope, but over a period of time there was a tendency to ignore the sounds in the one ear and the mechanism lost its usefulness. If the tube through which oxygen is being insufflated is disconnected from the source of oxygen and the end placed in the ear, the sounds of respiration at the rubber airway may be heard directly. A standard blood pressure cuff on the arm completes the equipment for monitoring the patient's physiological condition. A change in the respiratory cycle is one of the earliest indications of lightening anesthesia, although a sudden change in the degree of surgical stimulation may also affect the cycle. Constant attention to such relatively minor details enables one to make the nice distinction between mere reacting or coughing and respiratory distress. When a patient is intubated it is easier to monitor the respirations and even to control them, but taking the postoperative period into account, it may be more difficult to manage the entire procedure smoothly.

The details of management of the individual case must be left to the individual anesthesiologist at the time of operation. It is impossible to forecast accurately how each person will react to each of the many stimuli, drugs and procedures involved.

Of the many complications which may be encountered in the administration of anesthesia, either general or local, cardiac arrest is the most extreme. Recent reports by Kouwenhoven[5] and others on external cardiac massage present an approach to the problem which should be well adapted to ocular operations, for the patient is already supine on a firm elevated surface at a satisfactory working height for the necessary intermittent application of force over the lower portion of the sternum. However, if satisfactory results are not obtained in one minute or at most two minutes of external massage, the chest must be opened and the established procedure of direct cardiac massage instituted.

Regardless of which method is used, artificial respiration must be instituted, either by mouth-to-mouth breathing or preferably by intubation and use of an anesthetic machine.

Jacoby[4] said recently that positive pressure ventilation of a person with cardiac arrest will sometimes reestablish the circulation and normal heart beat. If arrest is detected early the heart is much easier to start. Whatever procedure is used must be well under way within three minutes if a good result is to be realized.

In one recent case, that of a child operated upon for correction of squint, the lungs became congested and the heart tones ceased shortly after the injection of a dilute solution of epinephrine. Firm application of pressure just below the sternum intermittently at a rate of twenty a minute reestablished the heart beat and then the respirations within thirty seconds. There were no discernible aftereffects.

My experience leads me to believe that it is not necessary in early or incipient cardiac arrest to apply pressure directly on the heart. A pulsating pressure produced within the thoracic cavity by positive pressure respirations or by pressure generally on the thorax, not specifically over the heart, will seemingly move blood by pressure on the vena cava and pulmonary vascular bed. If the heart is not fibrillating and is adequately filled, it will contract, even if only weakly. If not, the valves of the heart will limit the to-and-fro movement, and flow can be produced without an actual contraction. This intermittent pressure would also, at the same time, be applied to the pulmonary vascular bed, filling the left side of the heart, and blood will be moved into peripheral circulation.

Since cardiac arrest often seems to be due to interference with cardiac filling, the application of a pulsating force to the intrathoracic contents is worth a brief try.

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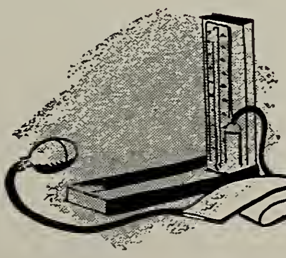

Psychiatric Management of Intersexed Patients

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• The psychiatric management of intersexed patients stems from an awareness that sexual identity is the result of a complex mixture of somatic and psychological components. Decisions in treatment are dependent on the appearance and correctability of the anatomic defects, the age of the patient, and the potential reversibility of the identifications contributing to the manifested sexual identity. In infants and small children, following proper diagnosis of somatic sex and an evaluation of degree of correctability of anatomical defects, decision can be made whether to bring up the child in his genetic sex or not. It is very difficult to change the sexual identity after two and a half years, except possibly in persons who already have considerable question as to their maleness or femaleness.

In the psychiatric treatment of children with such disorders, the child and his family should be informed in understandable language what is being done, and the child and usually the parents should be involved in psychotherapy.

With the adult, if treatment is necessary, supportive therapy, not psychoanalysis, should be used.

THE ATTENTION that has recently been focused on intersexed patients in the literature has helped alert medical practitioners to this rare but delicate problem. While the surgical, endocrinological, genetic and other physical aspects have been dealt with skillfully and thoughtfully (see for example, Jones and Scott[4]), relatively little has been said of the psychiatric management.

The term *intersexed patient* includes a heterogeneous group of people with ambiguities of the external or internal genitalia and gonads; or conflict between the appearance of external genitalia and secondary sex characteristics. Most, by far, are considered pseudohermaphrodites. There are a number of causes, some genetic (for example, certain genital defects will run through several generations), some constitutional (such as adrenogenital syndrome starting in utero), and some iatrogenic (like masculinization of external genitalia in utero when the mother is treated with synthetic progesteroids for threatened abortion). The possibility of complicating emotional factors arises when the external genitalia are not unequivocally of one sex or the other or when external genitalia do not "agree" with secondary sex characteristics.

When the genitalia look normal, no doubt is placed in the parents' minds, and the upbringing of the child then will follow the course to which it was destined, just as occurs with every child in every family. Sex definition is conferred at birth, and conformity within the limits permitted by each culture is impressed on the child. This proceeds subtly and without stirring much conscious awareness of the process so long as there is acquiescence to the parents' wishes. However, if the child deviates in his behavior from the norm, the parents' anxiety may be stirred. This, converted into anger, embarrassment, tense coercion or the like, signals the child that to proceed further with that particular bit of behavior will threaten him loss of parental esteem. Thus this gyroscope, the parents' attitudes toward their child's sexual identity, guides the child's development.

Regardless, then, of genetic sex, gonads or internal genitalia, an infant appearing to belong to one sex can expect to be appropriately named, dressed, reacted to and molded. Should there be some anatomically hidden form of intersexuality present, it will remain hidden, usually until adolescence if not for the whole of one's life.

Before becoming more directly involved in the management of emotional issues in such patients, let us consider typical approaches that have been used within the last century. Krafft-Ebing,[5] who postulated a central nervous system center to control sex role behavior for each sex, left us with the problem of what to do till we should find such a center and learn ways to influence it. Pennington[8] said she solved this by correcting "the biochemical malfunctioning in the center of bisexual development" by phrenotopic agents. In the last generation, easy decisions with minimal stress for the physician were made possible by the rule held to by Young[11] that when the gonadal sex was determined, the patient had no choice but to change roles, if necessary, to that sex. Most recently, Cappon and coworkers[1] devised a mathematical formula for weighting the components of somatic and psychological sex and concluded that the correct sex role is calculated by algebraically summing those components. They hold that this summing always demonstrates that gender

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role follows somatic sex, and that change to the sex as thus determined can be safely undertaken at any time in life. In the last decade, Money[6,7] and Hampsons[2] have expressed the view most compatible with present-day psychodynamic opinion: Their view is that sex role is more or less fixed by primordial experiences, especially of the first 18 months of life; and they cited many cases to show that generally successful crossing to the opposite sex is rare after early childhood. We agree with Money and would add only that we are exploring the hypothesis that if the parents are unclear as to which sex the infant belongs, then the child will be unclear, and only then will the person be able to shift roles later in life with relative ease.[9,10]

The rationale for the methods of treatment to be described comes from our observations or from descriptions by other investigators of normal development of children, treatment of disturbed children, psychoanalysis of "normally neurotic" adults, and study or treatment of adults with perversions. These observations and descriptions show that early life experiences have an especially compelling quality in forming the eventual character structure of a person. The events of later life are easier to understand because their effects are apparent, and one can imagine oneself reacting in such a situation. It is common knowledge that the most easily observed piece of behavior may not have the most profound effects and that far-reaching changes can occur in silence. These changes may leave behind, not a memory which can be turned on or off at will but rather a change of behavior that persists, is habitual and is more or less beyond conscious control.

So goes much of the process of developing a sexual identity. One can already observe in an uncomplicated two-year-old the minutiae of behavior that add up, for example, to daintiness or coyness in a girl and brash vigor in a boy. No memory of the development of these habitual attitudes will remain in the child (and usually not even in the parents, who say that "it just happened"). The extreme youth at which these permanent effects show themselves may be offered as proof that this is due simply to the inevitable endowment of *XX* or *XY* chromosomal arrangements. To arrive at this conclusion, one need only ignore the fact that two children, just like the normal ones previously mentioned, may show by all their actions and feelings that one is male and one female, although both may have a positive (female) chromatin-staining pattern and an identical pseudohermaphroditic condition of the external genitalia due to hyperadrenalism. Though biologically identical, if one has been unquestionedly considered a female from birth, the other a male, the sex of their rearing will be the factor that shapes their lifelong sex roles.

ASSIGNMENT OF SEX

Proper management of the intersexed patient, as with any other medical entity, is dependent on proper diagnosis. In essence, this means establishing the sex to which the patient is to be assigned. Assignment of sex is fixed by two general categories, somatic and psychologic.

The somatic can be divided according to: (1) Chromosomal sex, (2) gonadal sex, (3) hormonal sex, (4) external and internal genitalia, (5) secondary sex characteristics, (6) body habitus. It is beyond the scope of this communication to discuss the various techniques for arriving at a correct genetic, anatomic and endocrinologic evaluation of somatic sex status, but it need scarcely be stated that such an evaluation is essential.

The second, the psychologic, is overridingly the most powerful criterion in the development of sexual identity, although usually supported by and exploiting the secondary sex characteristics and appearance of the external genitalia. In this instance, what is crucial is the determination of quantity and quality of identifications with one sex or the other. For example, one wants to observe whether the patient is imitating or caricaturing, or whether true identification is present—that is, comfortable, automatized, nonawkward acceptance of mannerisms, dress, inflections and the like. In addition, one should gain sufficient knowledge of the past history to know from which members of the family or later family surrogates these identifications have been taken, and how easily did these family members fit their own sex roles.

The depth of these identifications will determine their reversibility or irreversibility. A contrast in degree of reversibility can be seen in two patients we treated. One was a male pseudohermaphrodite. Although he was considered a girl by his parents, sufficient doubts were raised by his ambiguous genitalia that even as a small child he was dressing in his father's clothes and imitating his father's walk and talk. The parents tried to protect themselves from their increasing fear that the patient's sex assignment might have been wrong by forbidding any discussion that the patient would raise as he struggled with the confusion aroused by the appearance of his external genitalia. An attempted resolution by the development of the role of a "butch" homosexual with sexual relations exclusively with women glued the disparate pieces of identification together for years. However, it is not surprising that the patchwork could become unstuck in the course of treatment, with this patient changing to a male surprisingly well.

On the other hand, a woman brought up in a family in which no one had any question she was a female and whose external genitalia throughout childhood were unquestionably female is now, as an adult, irreversibly a female. Not only does her unquestioned femininity fit her well; it is the connective tissue of her character structure. And so, no one will know she is nonetheless a genetic male.

If one has determined that the patient is comfortable and fixed in a sex role, management of the patient is clear: Any effort at changing this role, even if this role is in opposition to some aspect of the somatic sex, will be unsuccessful; and if the therapist should begin to give the patient insight, a psychologic disaster may result. This is true except in young children: in them the core sexual identity gradually becomes fixed at around two and a half years and only heroic efforts in subsequent months can begin to shift it, given parents who are relatively clear-cut in their sense of the child's sex. Therefore, further discussion herein will be directed only at the treatment of patients whose sexual identification is less sure.

It is of the greatest importance that the physician who has contact with newborn infants remember that the possibility exists, even though it is rare, that wrong clues may be given by the appearance of the external genitalia. If he is alert to this possibility, then when he is confronted with an infant with ambiguous genitalia, he will be in a position in most cases to determine the proper somatic sex. It is important that such a decision be made as quickly as possible, since the effect of the ambiguousness and the indecisiveness on some parents increases decidedly with the length of time that they must suffer this indecision. On the other hand, every care must be taken to clearly diagnose the condition, and the physician must not be rushed into a premature diagnosis. The work of Money and Hampsons indicated that, should an incorrect ascription of sex have been made, the error can be corrected without significant damage of the child's ultimate sex role if the change can be accomplished not later than about two and a half years. After this time permanent character structures relating to sexual identity have been formed and can change only with difficulty. These investigators also emphasized that there is no difficulty to be expected if the change is made within the first 18 months.

A very important point is that the proper psychiatric management of intersexed patients often depends upon proper surgical and endocrinological management. The following case is an example of how difficult the surgical and endocrinological decisions may be. An infant is born normal in all regards except that external examination of the genitalia reveals a "hypospadiac penis plus cryptorchidism." No question of intersexuality is raised till "he" is 6, when a careful examination and evaluation reveal that the child is genetically and somatically a female though the external genitalia give the appearance of male organs. In view of the uncertainty as to the possibility of adequate surgical correction to produce a normal appearing "penis" and the unlikelihood that such surgical reconstruction could also result in an organ that would be sexually adequate, the question arises: Should one nonetheless continue to treat the child as a boy with or without repeated surgical procedures, or should one try to bring the child up as a girl? The latter choice would also entail a certain amount of surgical repair and a great deal of psychological trauma.

In general, one can say that before the core sexual identity has been established the main problem is to determine the somatic facts and to decide, on the basis of these facts, what sex assignment should properly be made. The infant, should it have been started in the sex opposite to the one now to be assigned, can be shifted without great difficulty. The greater problem comes in the child somewhat older but still not yet fully into latency. The question whether such children, with proper psychiatric management can successfully shift their roles is still uncertain, for such treatment has rarely been afforded these children.

GENERAL NOTES ON TREATING CHILDREN

A few generalizations can be made: (1) The child must be informed in understandable language what is going on, the purpose of the treatment, the reasons for any surgical procedures, and simple explanations of sexual anatomy and sex role given. (2) Parents must be intimately brought into the treatment and probably must receive at least supportive treatment themselves. This is especially true for the child's mother but is also essential to a greater or lesser degree for the father as well. (3) In addition to their having scientific explanations of the anatomy of the genitals given to them, the parents and the child must also be taught that the ambiguous state of the genitals, as Money has said, is evidence of "unfinished" development and not of some incomprehensible freakish condition. The parents must also be assisted in such practical matters as changing birth certificates, discussions of their fears regarding their child's stigma and ways of handling neighbors and relatives. (4) The therapist should be an expert in working with children. It is possible that the therapist might best be a person of the sex the child is ultimately to become. Harrison[3] suggested that there be two therapists for the child, one of each sex, and that various aspects of the child's bisexuality be played off between the two therapists, with a shift toward the one of the same sex that the child is to become in order to permit firm identifications to occur.

Let us now briefly consider a few adult cases. The first is a young, single woman office worker, who was seen by us during her recovery from a laparotomy. This operation had been the culmination of the examination performed on her to clarify her proper sex. She had originally been seen because of primary amenorrhea and no breast development. Physical examinations, including the laparotomy, had revealed her to be a genetic male in whom the total absence of functioning gonads of either sex had produced a neuter condition. Hence, she had been considered a girl from birth and had the external genitalia to confirm such a decision. She was now clearly feminine in her sex role orientation. It was therefore decided that no effort would be made to change her sexual identity, and it was properly felt that no good could be done by informing her of her genetic maleness. She was informed only that she was sterile, and the sadness which followed this announcement was the opening which we were able to use to introduce her to psychiatric investigation. This was undertaken as if it were simply psychotherapy for the sadness and for neurotic character traits (shyness and some difficulties with an older sibling which would probably not under the usual indications for psychotherapy be sufficiently severe to warrant psychiatric treatment).

She revealed her shame at not having yet developed breasts and her awareness that her genitals, although appearing feminine, were not like other girls'; the external genitalia ended in a blind vaginal pouch. The feelings of being different from other girls, which augmented the shyness already present in her character structure from earlier childhood development and not related to her anatomical difficulties, were handled in psychotherapy.

First, a simple explanation of normal female genitalia was given, and shortly thereafter an explanation of how a surgical procedure could produce a functioning vagina. Her doubts whether this information was really true were diminished by reference to medical texts and further explanations of anatomy, referral to a gynecologist for surgical operation and active intervention with the gynecologist on the part of the psychotherapist so that the patient knew that the psychotherapist was involved at every point in seeing that the now desired operation was carried through. In the same manner, there was discussion of the endocrine problems involved in producing breast development, and the proper referral to the endocrinologist supervised by the psychotherapist.

The patient's discussion of her present-day sexual feelings were managed, not from a psychodynamic viewpoint, but rather in a supportive manner. The family was brought into the treatment to the extent that it was made clear to them that we wished to keep them informed of the patient's progress and turn to them at times for historical information, which was given with the patient's permission and usually with the patient present. The family was not informed of the genetic complications.

At all times all members of the research team kept in mind that this was a woman whose identity as a woman was not to be disturbed by the research investigation of either herself or her family. In itself, the investigative aspects were felt by the patient to be clear-cut evidence of our high and continuing interest in her and in her welfare. Because of the attitudes of the investigators, it was clear to her that we all wished to solve her anatomical and psychological problems for her, and this was of incalculable support. Thus, the feeling that she was different from other girls was minimized from its phantasied levels to a sense that her differences were anatomical, explicable and correctable.

The second case, that of a pretty young girl with a fine figure, a feminine manner, male chromatin staining, and normal sized penis, came to our attention because of her persistent, highly motivated efforts to maintain her feminine identity by having her sterile and, to her, grotesque genitals removed. The first part of her psychiatric management was strictly supportive and aimed at getting for her the proper surgical and endocrinologic treatment. At this point in her life, she felt that any psychological problems she had would be solved by the removal of the offending penis, and so she had no motivation to cooperate with us in a psychiatric investigation or in psychotherapy.

Following successful medical and surgical treatment she married, and a couple of years later, because of boredom and irritability in her marriage, she returned to us, this time specifically for psychiatric treatment. At the time she had broken off with us, shortly after the operation, we had told her that should there be any psychological problems in her adjusting to her new anatomic state, as we felt there would be, we would be most eager to help her. No pressure was placed on her at that time for the psychiatric treatment that she did not wish, but it was emphasized that the door was open to her at any time in her life she would feel the need. She is now in treatment, which can be described as insightful and supportive, although at this point not psychodynamic in the sense of probing for unconscious material and the interpretation of such material.

Another patient was a mature man who, up into middle age had been under the impression that he was a bizarre woman. He had had "an enlarged clitoris" removed in his teens and had subsequently embarked on an exclusively "homosexual" life with women, thinking himself to be a homosexual woman. Psychiatric treatment had begun at first with the patient assuming simply the role of a research subject. However, in the process of the investigation, the patient in talking of his life began revealing his emotional problems. This gradual revelation, in the benevolent atmosphere of the research, gradually produced an active, positive transference which has persisted for a number of years now, although the patient has not been in treatment for a couple of years. The positive feelings toward us were very much enhanced by our getting the patient adequate medical evaluation and by our simplifying referrals for medical conditions not related to our research, which were then successfully treated in the medical center. Advice about living conditions, ways of acting at work, techniques for making the transition to maleness, suggestions regarding medications that could be used for nonpsychiatric conditions, being available at any time for phone calls to answer questions coming up in any area of the patient's life, all set up a relationship in which the patient felt great trust toward the investigators. Because of this support always at his elbow, the patient was able to make the transition to living as a male in all areas of society, to getting married, and to leaving the homosexual community completely.

One may make a few generalizations. First, as would be proper in the psychiatric management of any case, each patient must be treated as a unique situation. As is usual in the use of supportive techniques, improvisation based upon empathy, experience and good judgment is necessary. One is therefore, as always, well guided by the rule that decisions in treatment should be made with the patient's welfare a decisive factor, not the biases, idiosyncrasies and pleasures of the therapist making the judgments.

Second, psychoanalysis or psychoanalytically oriented therapy is not indicated. While we hope for our research project that such a patient will some day seek us out for treatment, in none of the patients we have so far seen have the indications for analysis been present. These patients have too many problems produced by the reality of their physical states to make their relationships with society solvable by the shifting of unconscious phantasies and changes in the balances of character structure.

Third, a heavier burden for direct intervention is placed on the psychotherapist than is usually required in more typical psychiatric treatment. Thus, one is more involved in making referrals, pushing the referrals, enlisting the sympathy of the referred physicians, and if necessary convincing them of the value of not considering the patient to be freakish. Medical-legal problems may have to be handled, such as changes in licenses and birth certificates.

Fourth, active encouragement, which must be sincere and modest, not extravagant and forced, may be needed to carry the patient through the uncertainties of strengthening sexual identifications so late in life. We think that to shift the sum of these identifications from one sex to the other can only be done in those patients in whom the early life experiences were sufficiently equivocal that the patient was not quite clear into which sex he should properly fall. Where the core identity was formed in early childhood in a normal manner, then every precaution should be taken not to disturb this core identity (see the first case).

Last, we would underline the great aid we have had in the proper management of intersexed patients because of the research setting. This has convinced the patients of our interest in their physical and emotional problems and of our concern that these problems be lessened. The patients come to understand that we do not consider them weird, and in learning the simpler facts of anatomy and physiology, they begin to give up their sense of being freaks. A special and peculiar bonus comes to them because they feel that they are the objects of investigation and that therefore they are special people, who can, out of their misery, contribute to medical knowledge. Our stressing of the latter to our patients has been for most of them one of the most gratifying aspects of their research-treatment.

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Physical Examination of Well Persons

What Is "Adequate" for Detection of Unsuspected Disease?

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• In the examination of 500 "well" executives, the number of unknown diseases found averaged 5.4 per person. Almost half of these executives had newly detected disease that was potentially significant to their health.

Treatment was necessary in more than 47.7 per cent of them.

One out of five of the total significant unknown defects found was either a peptic ulcer or gallstones; one out of five was a rectal adenoma; and one out of five was either hypertension or cardiac disease.

One-third of the executives were overweight. Diabetes was found in every 20th person; and malignant disease was detected in one of every 41 people.

For an examination to be "adequate" for the detection of unknown disease, the general physical examination must be complete and thorough. A proctoscopic is necessary, and certain basic laboratory screening procedures should be completed in each individual.

Complete and routine x-ray studies of the gallbladder and gastrointestinal tract should be done, since they are the most important single diagnostic procedure, in detecting early, major, unsuspected, and often asymptomatic diseases.

Routine consultations with specialists are a valuable asset in disease detection.

Repeated periodic examinations help in detection of new unknown disease that was not present or not noted in earlier examinations.

WHAT IS AN ADEQUATE EXAMINATION of a middle aged person? What laboratory and x-ray examinations should be performed routinely? How often should such an examination be repeated? In the past ten years these questions have become more and more topical as increasing numbers of apparently "well" persons are requesting examination of a health survey type. They do not complain of symptoms of an illness; rather, they ask, "How well am I?"

There has been a great variation as to just what should be included in an examination whose objective is detection of unknown disease. With various individual modifications, three basic types of examinations have been used:

1. A detailed history and a routine physical examination with minimal basic laboratory studies.[10,16]
2. The same triad plus a routine electrocardiogram, an x-ray film of the chest, a proctoscopic examination and such x-ray studies as the examiner felt might be indicated in a particular case.*
3. A combination of the first and second examinations plus the routine addition of x-ray studies of the upper gastrointestinal tract, colon and the gallbladder.[5,24]

We use still another kind of examination which, besides all the foregoing, employs the services of specialists as a part of routine procedure.

In our original concept of such a routine examination ten years ago, we started with the theory, "The more you look, the more you find." Our standards were purposely set at a high level since it seemed reasonable to expect that detection of early or latent unknown and asymptomatic disease would best be done by a team of examining specialists, each skilled in working in his particular field, yet under the direction of and reporting to the patient's physician for final evaluation. Our routine specialist consultations included those with physicians in the departments of cardiology, urology (or gynecology), proctology, dermatology, ophthalmology and otorhinolaryngology. The laboratory studies included a complete blood cell count, determination of sedimentation rate, serology and urinalysis. Blood chemical studies included determination of sugar content one-hour postprandial and fasting cholesterol, creatinine, uric acid content, and thymol turbidity. A specimen of stool passed after three days without meat was studied microscopically and for occult blood. The uptake of iodine^{131} was determined at six and 24 hours. The usual 12-lead electrocardiogram was followed by a single (more recently, by a double) Master's exercise test. Cytologic examination of vaginal exudate was done routinely

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by the gynecologist on all female patients. Complete ophthalmologic examinations were performed. Biopsy specimens were taken from all suspicious skin lesions and rectal adenomas. For a time audiograms were done on an optional basis, but later were performed routinely during the initial examination.

Routine x-ray examinations included a posteroanterior and lateral minifilm of the chest and complete gastrointestinal and gallbladder series.

Optional consultations, or additional x-ray and laboratory procedures, were employed as deemed necessary by the internist. Some of the examinations that at one time or another were done routinely were found to be of little or no value and have been eliminated.

Our experience in the kind of examination here described now includes over 3,000 business executives who have had over 5,000 periodic examinations. Approximately half of the group were private patients, and the remainder were examined under the sponsorship of the companies employing them.

This preliminary report deals with a detailed analysis of 837 examinations in the first 500 company-sponsored and apparently healthy persons who were examined under this plan. There were 445 men and 55 women. Seventy-six per cent of the men and 78.1 per cent of the women were below 50 years of age, and the majority were between 40 and 50.

Ninety-seven per cent of them had defects of which they were unaware before the examination, and 43.7 per cent had some unknown disease that was considered to be of significant importance to their health. (For a disease to be classified as significant, it must be a hazard to the individual's health, either in potential disability or capable of shortening his life.)

A total of 5,169 abnormalities were noted, 2,430 of which were defects that were known to the patient before the examination, and 2,739 were new diseases which had not been previously recognized —an average of 5.4 unknown diseases per patient. Many of these diseases were insignificant or unimportant defects or deviations from normal and do not necessarily entail illness or serious handicap. On the other hand 371, or 13.4 per cent, of the newly discovered diseases were of significant clinical importance.

It is this group of 371 significant unknown diseases which are capable of producing symptoms or which may have a direct bearing on the patient's future health in which we are truly interested. An attempt was made to further subclassify this group into 161 major and 221 moderate diseases. At times this classification according to their seriousness is difficult or impossible because there is no uniform system of recording disease. A disease may be of only moderate medical importance, but to the individual in his occupation it might be classified as of major importance.

INCIDENCE OF DISEASE

The gastrointestinal and cardiovascular systems contained more than 50 per cent of the significant unknown defects, with the metabolic and urogenital systems making up an additional 25 per cent of the total. Although many of the unknown diseases were asymptomatic—such as new diabetes or "silent" gallstones—there were instances in which patients had vague symptoms that, even in retrospect, could not with any certainty be attributed to the newly detected disease.

Overweight was the most common diagnosis, occurring in 35.2 per cent of the group. Among the significant, previously unknown diseases, rectal adenomas, heart disease, hypertension and peptic ulcer were of highest incidence.

Gastrointestinal Diseases

Of 145 significant and unknown diseases found in the gastrointestinal system in this series, 67 were major and 78 were moderate diseases. They made up 39 per cent of the entire unknown group (Table 1).

1. *Esophagus.* Significant unknown disease of the esophagus included one large (9 cm.) hiatal hernia without digestive complaint, but with pronounced anemia secondary to chronic bleeding, and seven other hernias of moderate size with varying degrees of reflux. There was one asymptomatic leiomyoma of the esophagus, 2 cm. in size, which was later removed.

2. *Peptic ulcer.* Peptic ulcer was found in 35 patients, this diagnosis making up 9.4 per cent of the total newly detected diseases. There was one gastric ulcer with mild symptoms. Of the 34 persons with duodenal ulcers, eight had x-ray evidence of active ulcer; four of the eight were asymptomatic and the other four had symptoms that suggested the presence of an ulcer. We found that complete absence of pain in an active ulcer is not a rarity. Of the four asymptomatic patients with active ulcer, only one had occult blood in the stool, a faint trace. X-ray evidence of an inactive duodenal ulcer was found in 26 patients, six of whom had a history of symptoms suggesting this possibility. The other 20 patients gave no history of digestive distress. Only one of these patients had a positive reaction to a test for occult blood in the stool. If gastrointestinal x-ray studies had been done only on suspicions gained from the clinical history or on a positive reaction

TABLE 1.—*Data on Significant Unknown Diseases Diagnosed in 500 Business Executives.*

	Degree		Total	
	Major	Moderate	No.	Per Cent
Gastrointestinal System:				
Esophagus	----	----	9	2.4
Leiomyoma	1	----	----	
Hiatus hernia	4	4	----	
Stomach	----	----	35	9.4
Gastric ulcer	1	----	----	
Duodenal ulcer	34	----	----	
Gallbladder	----	----	32	8.6
Cholelithiasis	23	----	----	
Papilloma	----	5	----	
Cholesterosis	----	2	----	
Cholecystitis	----	1	----	
Hepatitis, chronic	----	1	----	
Colon and rectum	----	----	69	18.6
Polyps—benign	2	----	----	
Polyps—malignant	2	----	----	
Rectal adenomas	----	53	----	
Miscellaneous	----	12	----	
Total, gastrointestinal	67	78	145	39.0
Cardiovascular System:				
Hypertension	36	----	36	9.7
Cardiac disease	----	----	24	6.4
Hypertensive cardiovascular	8	----	----	
Arteriosclerotic	6	----	----	
Rheumatic	3	----	----	
Miscellaneous	2	5	----	
Arteriosclerosis	----	----	13	3.4
Calcification of abdominal aorta	1	8	----	
Calcification of thoracic aorta	----	3	----	
Arteriosclerotic obliterans	1	----	----	
Electrocardiographic abnormality	----	----	12	3.4
Diagnostic:				
Bundle branch block	----	5	----	
Delayed A-V conduction	----	3	----	
Myocardial infarction pattern (silent)	1	----	----	
Chronic atrial flutter	1	----	----	
Chronic atrial fibrillation	1	----	----	
Wolff-Parkinson-White pattern	----	1	----	
Cardiovascular System (continued):				
Associated with cardiac disease 9				
Nonspecific T-waves 6				
Left ventricular hypertrophy 2				
Chronic cor pulmonale 1				
After exercise 406				
No change 386				
Nonspecific change 10				
Ischemic type 10 (2.8%)				
Total, cardiovascular	60	25	85	22.9
Various Other Systems:				
Metabolic	----	----	51	13.7
Diabetes	9	14	----	
Hyperthyroidism	----	2	----	
Hypothyroidism	----	17	----	
Nodular goiter, nontoxic	----	5	----	
Adenoma, single	----	2	----	
Gout	----	2	----	
Urogenital			40	10.8
Prostatic hypertrophy—obstructive	8	15	----	
Renal calculi	----	8	----	
Chronic glomerulonephritis	1	1	----	
Benign tumors	----	3	----	
Carcinoma, bladder	1	----	----	
Carcinoma, prostate	1	----	----	
Hydronephrosis—severe	1	----	----	
Polycystic kidney	1	----	----	
Gynecologic	----	----	5	1.3
Carcinoma, cervix	2	----	----	
Myomata, uterus	----	3	----	
Dermatologic	----	----	6	1.6
Basal cell carcinoma	6	----	----	
Miscellaneous	----	39	39	10.4
Total, other than gastrointestinal and cardiovascular	30	111	141	37.8
Total, all types	157	214	371	100.0

for occult blood in the stool, only 12 patients would have had such studies. In the remaining four patients with active ulcer and the 20 with inactive ulcer, amounting to 68 per cent of the ulcer group, the lesion would have been completely missed. Although some investigators[11, 21] recommend tests for occult blood in the stool as a good screening procedure for the presence of organic disease, our experience indicated that a negative reaction to such a test cannot be relied upon as a guide for the selection of persons for further investigation.

3. *Gallbladder.* Cholelithiasis was found in 35 patients, 23 of whom were unaware of the lesions. Five of the 23 had symptoms sufficient to warrant diagnostic x-ray studies, but the other 19 (82 per cent) were asymptomatic and the presence of the stones would have been missed except for the routine use of roentgen studies. Papilloma of the gallbladder was found in five persons, and cholesterosis in two. Evidence of cholecystitis was found in one asymptomatic patient, and one other had clinical and laboratory evidence of chronic hepatitis.

4. *Colon.* There were 69 significant unknown diseases found in the colon and rectum. Highest in incidence was rectal adenoma—53 cases. As Bailey[2] said in referring to rectal examinations, "If you don't put your finger in, you put your foot into it." Most of the rectal adenomas were single, but multiple small adenomas were not rare. Biopsy specimens were taken routinely unless the lesions were less than 2 mm. in size, and fulguration then was done by the proctologist. In this group, there were

two villous-types of adenomas, and in both these cases the reaction to tests for occult blood in the stool was negative.

Two patients were found to have single polyps in the colon which later, at operation, were found to be benign. Two other patients, however, were found to have carcinoma of the sigmoid colon, and segmental resection of the colon was performed in both cases. Both patients were living at last report, four and two years later. Among the miscellaneous diseases of the rectum and colon, routine stool examinations disclosed endamoeba histolytica in four apparently asymptomatic persons; and in another a tapeworm was found. X-ray evidence of diverticulosis of the colon was found in 130, or 26 per cent of the patients.

Cardiovascular Diseases

Significant disease of the cardiovascular system was found in 85 instances and amounted to 22.9 per cent of the total unknown defects (Table 1). In 60 cases the disease was considered to be of major importance, and in 25 of moderate degree. Hypertension was noted in 36 persons. Twenty-four were unaware of the presence of cardiovascular disease. In eight of them it was hypertensive and in eight on an arteriosclerotic basis. In two of three patients who had rheumatic heart disease, a diagnosis of mitral stenosis was definitely made, and in the other diagnosis was only probable. Of seven patients with miscellaneous heart disease, four had mitral valve insufficiency, and three patients had definite signs of cardiomegaly of undetermined origin. X-ray evidence of calcific peripheral arteriosclerosis was observed in 13 cases, with an abdominal aneurysm in one case.

Although electrocardiographic abnormality was noted in 31 patients, in only 12 (Table 1) was the abnormal tracing alone used as the basis of diagnosis. As a part of a program of clinical investigation, the single exercise test (and later the double exercise test) designed by Masters was done on 406 patients. Ten patients (2.8 per cent) had an abnormal response to exercise, with a horizontal or sagging "ischemic" configuration of the RS-T segment exceeding 1.0 mm.

Metabolic Disease

Significant metabolic disease was found in 51 cases (Table 1). In nine of 23 patients in whom diabetes was newly diagnosed, the disease was obvious and medical treatment was required. Fourteen other patients had an occult or latent form of diabetes and were placed under continued observation. There were 26 thyroid abnormalities. Although 24.7 per cent of the men had elevated uric acid content, there were only two cases of clinical gout. No woman in the group had an elevated uric acid.

Urogenital System

Eighteen per cent of the 445 men had evidence of benign prostatic hypertrophy. The average age of those with enlargement was 52 years, seven years more than the average of the group as a whole. In eight of 23 patients who had prostatic hypertrophy with obstruction, the obstructive symptoms were of a degree to warrant cystoscopic examination. Six were subsequently advised to have transurethral resection and three did have the operation.

Previously unknown disease of the kidney was found in 12 persons, in eight of whom there was x-ray evidence of silent renal calculi. One 44-year-old man had congenital polycystic kidneys. Signs of a "tumor" of the right kidney were noted in a woman, but at operation the lesion was observed to be a large hydronephrosis secondary to a congenital artery defect, and nephrectomy was done. Of five urogenital tumors diagnosed, two were benign prostatic nodules, one was a benign papilloma of the bladder, and two were malignant, one an adenocarcinoma of the prostate and the other a transitional cell carcinoma of the bladder. Both the patients with malignant disease were treated and at last report were living, six and seven years later.

Gynecologic Disease

Specimens of material from the vagina for Papanicolaou examination were taken routinely in each examination of the 55 women. Of five women found to have significant gynecologic disease, two, one of them 46 and the other 30 years of age, had "carcinoma in situ" of the cervix and total abdominal hysterectomy was carried out. Fibroid tumors of various size were found in 13 patients, nine of whom were unaware of their presence. Only three of these tumors were significantly large or producing symptoms enough to warrant recommendation of elective operation.

Dermatologic Disease

Six patients had basal cell carcinoma of the skin. Potentially malignant lesions such as certain senile keratoses, pigmented nevi and leukoplakia (in addition to the rectal and thyroid adenoma) were found in 38.4 per cent of the persons examined.

Miscellaneous Disease

In the 39 cases of miscellaneous diseases, 18 men had inguinal hernias, five had evidence of moderately advanced and symptomatic pulmonary emphysema, and one had early bronchiectasis. A benign polyp of the vocal cord was diagnosed and removed in one patient. There were four women with moder-

TABLE 2.—*Departments in Which Diagnosis of Significant Unknown Disease Was Made (371 Cases)*

	Degree of Disease			
Department	Major	Moderate	Total	Per Cent
X-ray	70	48	118	31.8
Internal medicine	57	13	70	18.9
Proctology	2	53	55	14.8
Laboratory	16	38	54	14.6
Urology	8	26	34	9.2
Electrocardiography	2	10	12	3.2
Radioisotope	....	8	8	2.2
Dermatology	6	....	6	1.6
Gynecology	....	4	4	1.0
Eye	....	4	4	1.0
Ear, Nose and Throat	....	1	1	0.3
Miscellaneous	....	5	5	1.3
Total	161	210	371	100

ate iron deficiency anemia. Polycythemia was noted in one man. The result of a serologic test was positive for syphilis in one case. There was one brain tumor detected; at operation it was found to be an epidermoid type. Although it was removed completely, postoperative staphylococcus meningitis developed and the patient died.

DIAGNOSIS BY SPECIALTY

Of the 371 significant and unsuspected diseases diagnosed, 161 were considered to be of the major type. Information obtained in the departments of roentgenology, internal medicine and the laboratory accounted for the detection of approximately 90 per cent of the diseases of major degree (Table 2). Physicians in the departments of proctology and roentgenology and the laboratory accounted for the diagnosis of two-thirds of the 210 cases of significant but moderate disease. These four departments together accounted for the diagnosis of more than 80 per cent of all cases of previously unknown major and moderate significant disease. Physicians in the remaining departments (gynecology, urology, dermatology, electrocardiology and others listed in Table 2) accounted for the diagnosis of almost 20 per cent of diseases of that kind. The proportions are obviously indicative of the general nature and the systemic locale of undetected disease.

REPEAT DIAGNOSTIC EXAMINATIONS

One hundred and seventy-nine persons had a second diagnostic examination, 81 had a third, 44 a fourth, 25 a fifth, six a sixth, and two a seventh examination, mostly at yearly intervals. The value of repeat periodic examinations for those over 40 years of age is shown by the finding of 335 known and 546 unknown additional diseases which had developed during the intervening years.

Of the new, unknown diseases that had developed, 14 per cent had major or moderate significance. When this yield is compared with the 13.3 per cent on original examination, the value of repeating examinations is apparent. Furthermore, it serves as a check on any progressive state of known diseases, and gives an opportunity to determine whether or not the patient has followed recommendations regarding therapy[15].

TREATMENT

Advice as to treatment was needed with regard to 1,228 of the 5,169 diseases diagnosed in the present series. Recommendations for treatment were recorded whether they consisted of periodic observation, active medical therapy or surgical operation. Many diseases do not need to be treated, whereas many have progressed so far that treatment with hope of cure is futile. Many of the patients who had known diseases that needed treatment had ignored or delayed following their physician's previous advice as to therapy. Some had had inadequate or incomplete treatment.

Active treatment was found necessary for 47.7 per cent of the 317 significant unknown diseases that were diagnosed. Medical advice was needed in 67 cases. Surgical therapy was necessary in 99 cases. Major surgical procedures were advised in 37 and completed in 23 patients.

DISCUSSION

Objections to examinations of this scope have been made on the basis that they are too expensive and that the elaborate, uncomfortable and sometimes hazardous diagnostic procedures[4] cannot be justified in the absence of some indication in the history or physical examination. Carryer[6] feels that the executive is only too happy to avoid any unnecessary laboratory or diagnostic procedure and the necessary preparation, fasting, purgation, blood letting and other disagreeable implications. Several other observers have disparaged the two-day or three-day laboratory and x-ray assault, which they call a "pushbutton workup."[5, 8, 9] Some investigators,[13] expressing belief that the radiation hazard is too high, will not use routine gastrointestinal x-rays, whereas others claim there is no evidence that the usual levels of diagnostic x-ray dosage are deleterious.[17, 19, 22] Since 71 per cent of the patients in the present series who received x-ray studies were above the age of 40—beyond the time usually thought of as "the reproductive years"—any radiation hazard to them should not be considered too great.

Contrary to the opinion of Macdonald,[14] evidence does exist that the prognosis is better if treatment of cancer is begun before symptoms develop.[1, 7] Certainly in such diseases as early hypertension, pulmonary tuberculosis, carcinoma of the cervix and prostatic obstruction, treatment is more successful when the disease is found in the early rather than the advanced stage. Furthermore, in other diseases such as diabetes, cholelithiasis and peptic ulcer, early and adequate therapy offers an opportunity to prevent some of the complications that may develop during the full-blown phase of disease.[20]

Even the most complete periodic health examinations of this type have limitations, not only as to detecting all asymptomatic disease, but as to predicting the future health of an individual. Such an examination is certainly not the keystone in preventive medicine, but it is one step in the evaluation of a person's health.[12]

If our aim is the early detection of significant disease in apparently "well" middle aged persons, before symptoms develop, we will have to proceed in the future, as we have in the past, with many routine x-ray and laboratory studies and objective physical examinations. Unlike its place in clinical medicine, the history is of little value in diagnosing disease in a "well" person. If we wait until a disease is symptomatic, we have allowed time to make the diagnosis for us.

We have found certain laboratory procedures (examination of stool for occult blood, thymol turbidity and creatinine determinations) are practically useless in disease detection, and other tests (I^{131} uptake, spirogram) are unnecessary, time-consuming, and too expensive for routine use, but should be available when indicated.

A person who has had serious, unknown disease detected by means of the kind of examination here described does not doubt that the time, the energy, the patience and the cost are justified. We have not yet seen any real anxiety or fears develop in a patient as a result of the finding of a disease he did not know he had. On the other hand, usually the executives who are found to have no disease are highly gratified and relieved. But caution is needed here, for although all physicians recognize that certain illnesses cannot be accurately predicted by any procedure thus far available, not all patients are aware of this. They should be told of these limitations, so that they may not have a false sense of security.

One important aspect of a periodic survey that should not be omitted or deemphasized, is the opportunity for a final and personal summation and appraisal of the individual's health by the physician. This permits the patient to ask questions of the physician and to discuss any changes that are important to his health.

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CASE REPORTS

Perirenal Hematoma in Newborn Infants

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THE PRESENCE of a mass in the flank in a newborn baby is usually considered to be a surgical emergency. Despite the fact that tumors in this location in the newborn are rare, many authorities advocate surgical exploration with a minimum of diagnostic studies that would cause delay. However, use of all the indicated diagnostic procedures may reveal a condition for which surgical intervention is not necessary. Three cases of flank mass which were not primarily surgical problems have occurred in the newborn infants at the Los Angeles County Hospital. The mass in each case was perirenal hematoma secondary to unilateral adrenal hemorrhage.

REPORTS OF CASES

CASE 1. The patient, a Caucasian male weighing 8 pounds 10½ ounces was delivered spontaneously following an uncomplicated pregnancy. The mother, 31 years of age, Gravida VII, Para VI, was in good health. The baby, apparently normal, had an Apgar* rating of 10. On routine examination in the nursery 8 hours later the infant was noted to be crying well, and respirations and reflexes were normal. Slight cyanosis was noted around the lips. A 10 x 6 cm. nontender, smooth, firm mass, which moved with respiration and seemed contiguous with the right kidney, was palpated in the right flank. The hemoglobin content at 36 hours of age was 17.5 gm. per 100 cc. Results of urinalysis at this time were within normal limits and blood urea nitrogen was 21 mg. per 100 cc. The infant's general condition in the nursery was good and he accepted routine feedings without difficulty. By the fourth day, the mass seemed to have enlarged, extending to the iliac crest. Hemoglobin content at this time was 18 gm. per 100 cc. An intravenous urogram done on the fifth day of life showed prompt bilateral excretion of radiopaque medium in good concentration, with displacement of the right kidney inferiorly. The renal pelves and calices were normal in contour.

Because retroperitoneal tumor could not be excluded, the infant was taken to surgery on the eighth day of life. At operation, a large collection of blood beneath Gerota's fascia was noted. Palpation of the kidney was difficult and no definite landmarks could be determined. As it was believed that the hemorrhage probably originated from a renal tumor, nephrectomy was done. The excised specimen was a normal fetal kidney surrounded by a large hematoma originating from a grossly hemorrhagic adrenal gland. The microscopic findings were normal fetal kidney and corticomedullary hemorrhage of the adrenal.

At operation the infant received a transfusion of 175 cc. of whole blood. On the first postoperative day the hemoglobin was 14 gm. per 100 cc. and it remained at that level during the subsequent stay in hospital. Results of studies of chemical components of the blood, done on three occasions after operation, were within normal limits. Persistent pyuria developed. A culture of the urine grew an organism of the Klebsiella-Aerobacter group, sensitive to chloramphenicol. Following treatment with this drug, the pyuria cleared and the infant was discharged in good condition at one month of age.

CASE 2. The patient, a Caucasian female, weighing 5,131 grams, was born following a pregnancy that was complicated by mild toxemia in the third trimester. The mother, Gravida IV, Para III, was 33 years of age. Upon apparently normal spontaneous delivery the baby had the umbilical cord around her neck. She did not breath spontaneously and required tracheal catheterization with positive pressure oxygen for 3 or 4 minutes.

Upon examination shortly after birth moderate respiratory distress, acrocyanosis, bruising of the face and a weak cry were noted. A firm 6 cm. kidney-shaped mass which moved with respiration

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*The Apgar rating is an assessment of the newborn's clinical condition at one minute after birth, based on heart rate, color, muscle tone, respirations, and reflex response, with a range of 0-10. From, "Evaluation of the Newborn Infant—Second Report," Apgar, V., Holaday, D. A., James, L. S., Weisbrot, I. M., and Berrien, C., J.A.M.A., 168:1985-88, Dec. 13, 1958.

was palpated in the left flank. Results of urinalysis were within normal limits and no organisms grew on a culture of the blood. Jaundice appeared during the first 24 hours of life. Results of blood chemical studies 24 hours after birth were: Sugar, 118 mg., urea nitrogen 44 mg., calcium 7.4 mg., phosphorus 15.0 mg., and bilirubin 14.8 per 100 cc., and carbon dioxide 20 mEq. per liter. Anteroposterior and lateral roentgenograms of the abdomen showed a mass in the left upper quadrant. No abnormality was seen in a film of the chest.

The baby's general health remained poor. She had several apneic periods with two generalized convulsions and died at 30 hours of age.

The significant gross autopsy findings were subarachnoid hemorrhage and massive left intra-adrenal hemorrhage with perirenal extension.

Case 3. The patient, a Caucasian female weighing 5,018 grams, was born following uncomplicated pregnancy. The 41-year-old Gravida XI, Para X mother had been in good health. The weight of her largest previous baby was approximately 10 pounds. There was a family history of diabetes. Delivery was spontaneous, with shoulder dystocia. The baby had an Apgar rating of 8. The amniotic fluid was cloudy with no meconium staining. Acrocyanosis was noted at birth. The baby's cry was good and respirations normal. The right arm was hypotonic and was held in an adducted and internally rotated position with the wrist flexed. The grasp reflex was present.

The infant did well in the nursery until at about 48 hours of age she refused to take her feedings. Four hours later her temperature was 102° F. rectally and she had shallow panting respirations of 100 per minute. A sausage-shaped, nontender mass was palpated in the right flank. In the subsequent 12 hours it increased in size until the upper three-fourths of the right side of the abdomen was filled by a firm, irregular, nontender mass. Hemoglobin content of the blood at this time was 17 gm. per 100 cc. No abnormality was noted on urinalysis, a blood culture grew no organisms and a film of the chest showed a normal heart size and clear lung fields. The infant's general condition improved rapidly and by the third day after birth, 24 hours following the onset of symptoms, respirations and temperature had returned to normal and she had resumed normal feedings. Except for the urea nitrogen content, which was 54 mg. per 100 cc., results of determinations of blood chemical contents were within normal limits.

Further studies were done to determine the nature and location of the mass. Anteroposterior and lateral roentgenograms of the abdomen taken on the third day of life showed a mass in the right abdomen displacing the intestinal gas pattern to the left. A barium enema showed no abnormality. An intravenous urogram showed prompt excretion of opaque medium and good concentration bilaterally. Sufficient opaque medium concentrated in the renal parenchyma to outline the kidneys. The right kidney was somewhat enlarged and irregular in contour, with lateral rotation of the superior pole. The findings were interpreted as showing displacement of the right kidney by a right renal or retroperitoneal tumor. A retrograde urogram done on the fifth day of life showed dye outlining both pelviocalyceal systems with a soft-tissue density surrounding the right kidney. The hemoglobin content on the sixth day of life was 15 gm. per 100 cc. of blood and urea nitrogen content was 42 mg. per 100 cc. On the following day a combined study of an intravenous urogram with simultaneous retroperitoneal and intraperitoneal injection of carbon dioxide clearly revealed a right renal mass encapsulating the kidney (Figure 1). It was concluded that this study had demonstrated a right perirenal hematoma.

Because a retroperitoneal neuroblastoma could not be definitely excluded, the baby was taken to surgery on her seventh day of life. At operation the right retroperitoneal space was observed to be filled with old organized blood clots. The clotted mass was adherent to the renal capsule and when it was removed, fresh hemorrhage occurred. Therefore the kidney and hematoma were excised. The posterior peritoneum in the area was thickened and indurated. The gross specimen and microscopic sections were reported as normal fetal kidney with pericapsular hemorrhage and a hemorrhagic adrenal gland.

The postoperative course was fairly uneventful. The hemoglobin content stabilized at 14 gm. per 100 cc., and the blood urea nitrogen four days after operation was 19 mg. per 100 cc. A fecal-cutaneous fistula developed at the operative site but subsequently healed and the infant was discharged in good condition at four weeks of age. The Erb's palsy was decidedly improved by the time of discharge. On later examination in the pediatric clinic, growth and development of the baby were observed to be normal.

DISCUSSION

The differential diagnosis of a unilateral flank mass in the newborn infant includes consideration of (1) hydronephrosis, (2) duplicated or horseshoe kidney, (3) Wilms' tumor, (4) multicystic kidney, (5) renal vein thrombosis, (6) hamartoma of the kidney, and (7) downward displacement of a normal kidney from adrenal hemorrhage or adrenal neuroblastoma.[5] The normal kidney displaced by a mass will show normal function and prompt excretion of opaque medium, as in the two cases in the present report in which intravenous urography was done.

Differentiation of adrenal hemorrhage from adrenal tumor may be more difficult. The differentiation is important since prompt surgical removal of the primary neuroblastoma in young infants is associated with a fairly good prognosis; in perirenal hematoma the kidney may be normal. Several factors should aid in the diagnosis. Neuroblastoma at birth is rare. Twenty-six cases had been reported in the world literature up to 1951.[3] In ten years' ex-

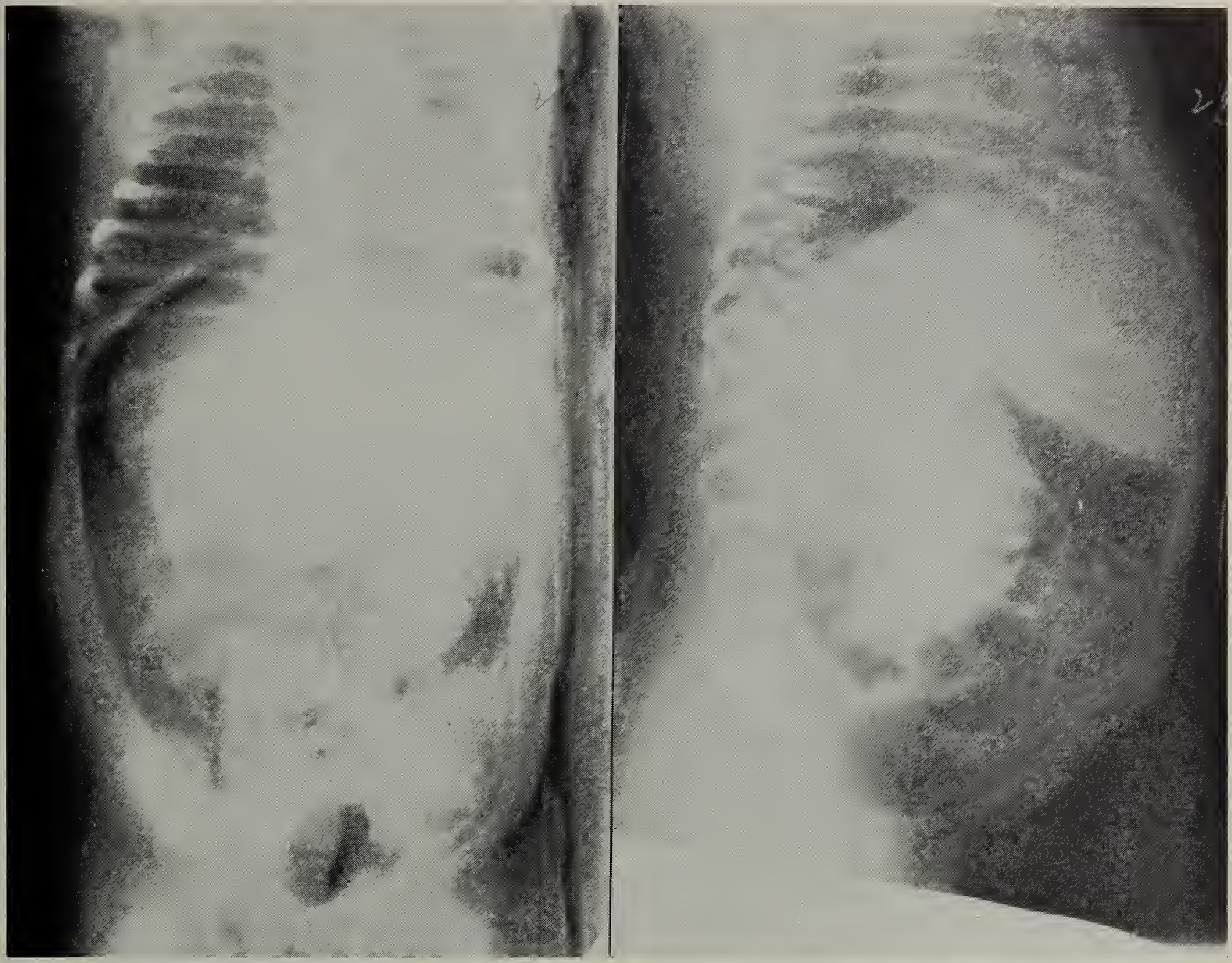

Figure 1 (Case 3).—Anteroposterior and lateral radiographs of the abdomen with pneumo and retroperitoneal insufflation of carbon dioxide show the right kidney encapsulated within the hematoma. The left kidney can be seen in normal position.

perience at the Los Angeles County Hospital covering 100,000 newborn admissions, no cases of neuroblastoma were encountered in the nursery. In the reported cases of congenital neuroblastoma the primary symptom was enlargement of the liver from metastasis, and a mass in the flank was a secondary finding.

The frequency of adrenal hemorrhage in the newborn is well documented in the literature.[1,2,4] A history of trauma during delivery, especially in a large infant, is commonly present, as it was in two of the three cases here presented. Asphyxia at birth, coagulation defect due to hypoprothrombinemia, and the large size and vascularity of the adrenal gland at birth may be contributing factors. The clinical findings associated with adrenal hemorrhage may be grouped in three categories. (1) The patient may have gastrointestinal disturbances and signs of acute adrenal insufficiency such as rapid respiration, pyrexia, skin rash, convulsions and cyanosis. (2) Signs of acute hemorrhage such as shock, collapse, weak pulse, cold extremities, air hunger and decreasing hemoglobin may be present. Also there may be signs of intraperitoneal hemorrhage. (3) Unilateral or bilateral masses in the flanks may appear following delivery. Symptoms from all three categories may be present in greater or lesser degree in any case. In one case herein reported (Case 3) the suggestive symptoms, transient anorexia, fever and tachypnea, were overlooked. Such symptoms appearing in an infant with a mass in the flank support a diagnosis of adrenal hemorrhage as the cause.

When a displaced otherwise normal kidney is demonstrated by intravenous urography, immediate intraperitoneal and retroperitoneal injection of carbon dioxide and appropriate roentgen studies, which can be done readily with little trauma, will show the encapsulating hematoma surrounding the kidney.

It is suggested that a newborn infant with a mass in the flank palpated in the nursery be dealt with as follows:

1. Treatment for adrenal insufficiency—and for blood loss and shock if signs are present—should be carried out.

2. Coagulation defect should be corrected by the administration of 1 to 2 mg. of vitamin K_1 oxide, if it was not given at birth.

3. Radiological examination should include an intravenous urogram; and if it shows an intact but displaced normally functioning kidney, appropriate air study should be done to see if the kidney is surrounded by a mass, making perirenal hematoma the most likely diagnosis.

4. Most important, operation is indicated only if there is uncontrollable hemorrhage.

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Carcinoma of Cowper's Gland

Report of the Eleventh Case

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JUDGING only by the number of cases reported, carcinoma of Cowper's gland appears to be extremely rare, only ten cases having been reported since Paquet and Hermann[7] made note of the first example of this disease in 1884. However, four of the ten were reported after Gutierrez[4] reported the sixth case and reviewed the subject in 1937. While the case here reported brings the total to only 11 in almost 80 years, it makes a total of six in the last 23 years. It appears, therefore, that unreported cases or missed diagnosis because of lack of knowledge of this condition may be more common than the literature on the subject indicates.

SYMPTOMS

Perineal pain was the chief cause of complaint in eight patients, while seven had discovered a lump in the area. Five had pain on defecation, two with rather severe constipation. Some degree of urinary disturbance, from mild frequency with decrease in the size and force of the stream to complete retention was noted in all cases. Four had retention requiring the use of a catheter. Three had spontaneous rupture of the perineal mass, with ulceration and discharge.

The youngest patient was nineteen years of age, two were in their early thirties, the remainder in the fifty-to-seventy age group.

TABLE 1.—*Incidence of Various Symptoms in Ten Cases of Carcinoma of Cowper's Gland.*

Pain in perineum	8
Mass in perineum	8*
Pain on defecation	5
Constipation	2
Urinary difficulty	10
Urinary retention	4
Ulceration	3

*Noticed by patient in seven cases.

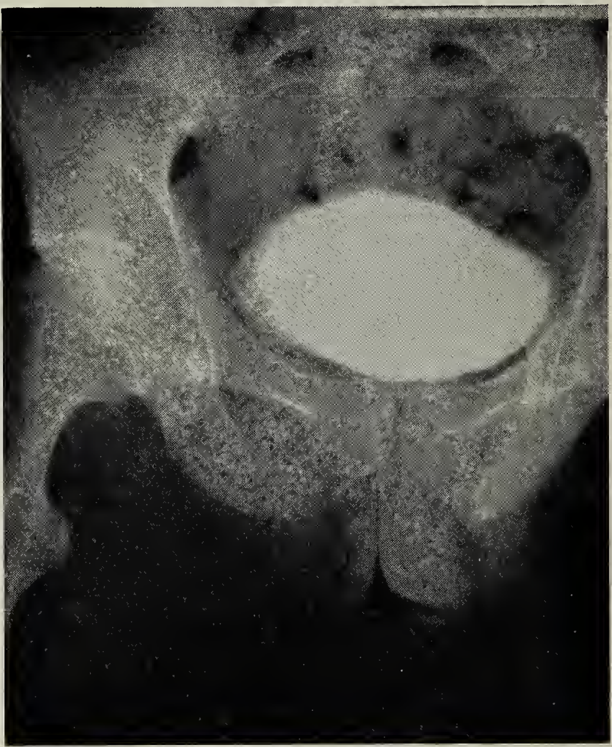

Figure 1.—Cystogram showing no abnormality.

PATHOLOGIC FEATURES

From the microscopic standpoint, the tumor is a cylindroma. It may involve one or both glands, beginning as a hard nodule which gradually enlarges, causing symptoms by compression of the urethra and of the rectum and anus, or by infiltration of the perineal structures. It may ulcerate into the perineum and discharge quantities of bloody mucoid material.[1,9,10] One patient had ulceration postoperatively.[3]

Metastasis was noted in only two cases before the one herein reported. The youngest patient had involvement of the inguinal nodes bilaterally at the original operation, and later abdominal masses developed, with edema of the legs, indicating further involvement of the lymph nodes. In one case[1] bilateral staged node dissection was carried out and six of twelve right, and four of ten left inguinal

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nodes were positive for metastatic adenocarcinoma.[11] In the case here reported there was metastasis to the lungs, the pelvic bones and the skin. In only one case was autopsy reported; the disease was limited to the perineal structures inferior to the urogenital diaphragm. Death is usually owing to malnutrition and inanition.

TREATMENT

Seven patients were treated by excision of the tumor in the perineum, one with simultaneous bilateral lymph node dissection, and one with subsequent staged bilateral inguinal node dissections. One patient[9] was further treated with local radium and with deep x-ray therapy.

One patient was reported as alive and well for two and one-half years following surgical excision. Another had a recurrent lesion after 17 months. It was excised and the patient apparently remained well for one more year. In the case reported by Uhle and Archer[9] the patient was well for one year after combined surgical excision and local radium and deep x-ray therapy, but two years later he was reported to have a urethrorectal fistula. There was also infiltration in the perineal tissues, showing evidence of malignant disease, which was proven by biopsy.[12] The patient is therefore presumed dead of his disease. Gutierrez's[4] patient died following operation. In the case Ackerman[1] reported, the patient died two years following the first operation.[11] The remainder of the patients are dead or presumed dead by the last reported description. There is, however, no follow-up report on one patient,[2] who was reported to be well at the time of leaving the hospital, two weeks postoperatively.

REPORT OF A CASE

The patient, a Mexican thirty-three years of age, was referred in July of 1956 by Dr. Jesus Trujillo Valencia of Mexicali. He had been ill for about a year, with dull intermittent pain in the perineum which for some six months did not bother him enough to make him seek medical attention. The pain had increased and become constant. It was associated with pronounced difficulty in voiding, leading to retention of two weeks' duration. Defecation was normal at first, but later daily enemas were required and there was a constant sense of pressure in the rectum. For the previous two months the patient had had low back pain, radiating into the left hip and thigh. There were no chills, fever or hematuria, but there were anorexia, weakness and loss of weight.

There was no history of previous illnesses except for gonorrheal urethritis treated with penicillin 12 years previously. The patient's father was dead, cause unknown, and his mother, wife and two children were living and well.

Upon physical examination the patient complained of pain in the back and the left thigh. The temperature was 99.6° F., the blood pressure 120/70 mm. of mercury. No abnormality was noted on examination of the heart, the lungs, the abdomen and the lymph node distribution. There was a stony hard mass in the perineum, about 6 cm. in diameter

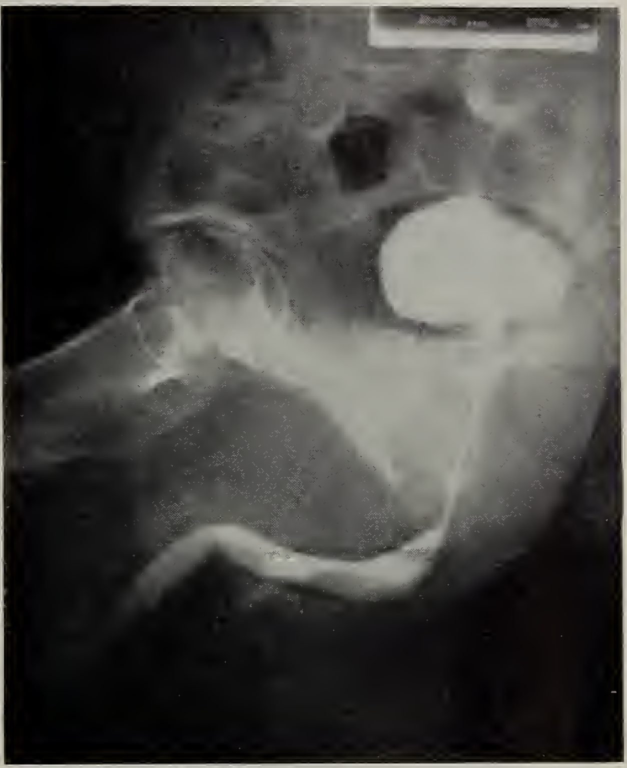

Figure 2.—Urethrogram. Note long area of narrowing by external compression, from bulbous urethra to membranous urethra.

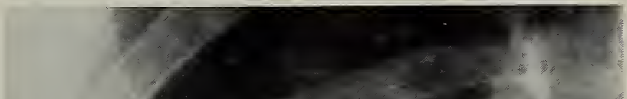

Figure 3.—Right lung field, showing small nodular metastatic lesions.

transversely, with a tender area of induration extending distally along the urethra for about 4 cm. On rectal examination this mass was felt just inside the anus. It was asymmetric, extending superiorly toward the apex of the prostate on the left side. The prostate could be distinguished from the mass.

The patient was put in hospital, and there 500 cc. of urine was obtained by catheter. A cystogram (Figure 1) showed no abnormality. A urethrogram (Figure 2) showed compression of the anterior part of the bulbous urethra. Cystourethroscopy showed a narrowing of the bulbous urethra which was interpreted as due to external pressure. The prostate, bladder and upper urinary tract were normal.

X-ray examination of the chest showed multiple nodules disseminated through both lung fields, most of them sharply demarcated (Figure 3). Diffuse bone destruction in the inferior pubic ramus on the right (Figure 4) and a smaller area of destruction on the left were interpreted as metastatic neoplastic disease, as were the pulmonary lesions. No abnormalities were seen in studies of the esophagus, stomach and intestinal tract.

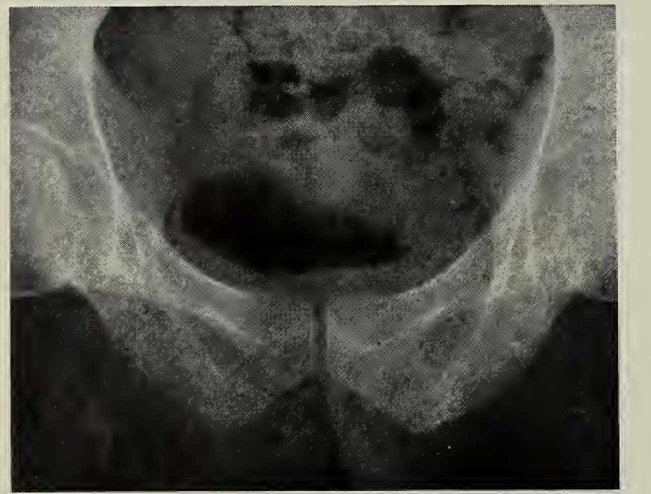

Figure 4.—X-ray film of pelvis. Note destruction of right ischium and inferior ramus of pubis, with similar changes, less pronounced, on the left side.

A biopsy specimen of the perineal mass obtained at open operation showed a tumor the general pattern of which was that of a cylindroma (Figure 5). The tumor was composed of gland-like structures which had two to four rows of cells, reproducing alveolar spaces containing a watery secretion. The diagnosis was cylindromatous adenocarcinoma of Cowper's gland.

The patient was offered the possible benefits of nitrogen mustard therapy, plus local radiation to the perineal structures, but he refused treatment and returned home. The physician who had referred him wrote in December 1956 that the patient had died. Persistent perineal pain with radiation into the lower extremities, with anorexia, nausea, and continued loss of weight and weakness were the prominent features of his last few months. Foley catheter drainage was necessary. Two subcutaneous metastatic lesions, in the skin of the thorax and the skin of the abdomen were noted by the referring physician. They were rounded superficially irregular isolated tumors, about 3 cm. in diameter, well circumscribed, of the same brown color as the rest of the skin, but a little paler. Like the primary tumor they were stony hard. They could be made to slide easily over the deep tissues but not in the superficial indurated strata which covered them and to which they were strongly adherent. Permission for autopsy was refused.

DISCUSSION

In presenting the eleventh case of proven carcinoma of Cowper's gland, a review of the previously published case reports leads to the conclusion that this disease can be recognized by a syndrome of perineal pain, with a mass, associated with rectal and urinary disturbances. It should be possible to differentiate the mass from prostate tissue by careful anorectal digital examination, and to rule out carcinoma of the prostate, urethra, anus and rectum by appropriate examinations. In view of the restric-

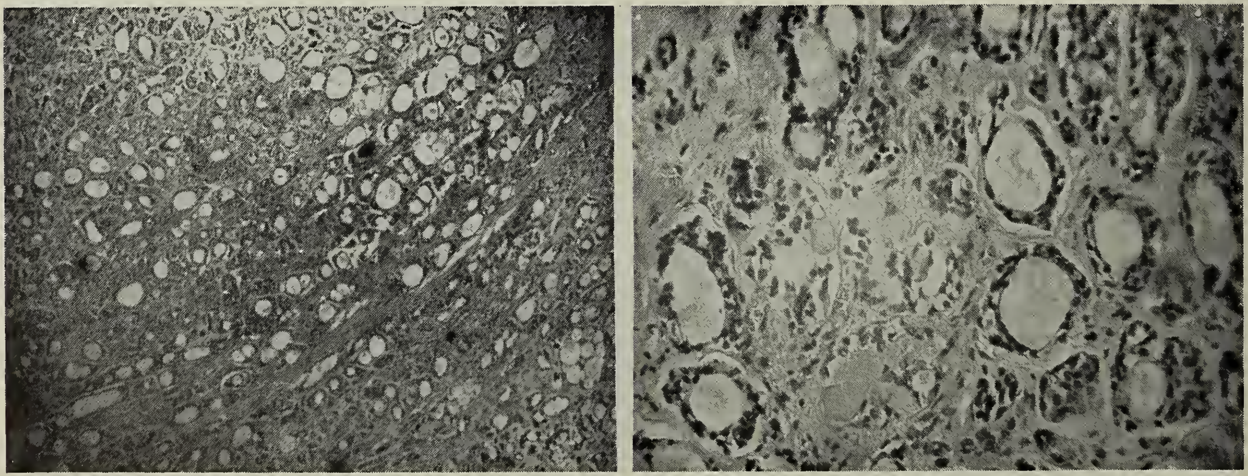

Figure 5.—Left: Low-power microscopic view of biopsy specimen. Right: High-power view.

tion of the disease to the perineum in most of the cases (metastasis occurred in only three of the 11 reported cases) it should be possible to excise the tumor in its early stages. In more advanced stages, more radical operation, as advocated by Marshall,[6] might be necessary, but a trial of excision with local radiation as used in the case reported by Uhle and Archer[9] is recommended. These cases point up again the advantages of perineal section to remove or for biopsy of nodules in and about the prostate, with early discovery of carcinoma the only hope of cure by surgical excision.

SUMMARY

The eleventh proven case of carcinoma of Cowper's gland is presented. It is the first reported case with metastasis to lungs, bone and skin.

The syndrome of perineal pain with a mass associated with rectal and urinary disturbances should lead to a diagnosis of this disease.

Localization of the disease to the perineum in most cases should be a favorable indication for surgical excision, radically if necessary.

The nature of all nodules in or about the prostate in the perineal area should be identified positively by excisional biopsy if possible.

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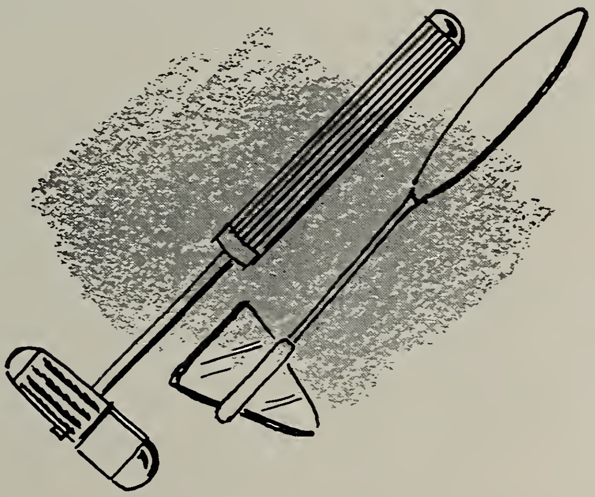

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EDITORIAL

Time for Political Action

Physicians attending the recent Denver meeting of the American Medical Association met a new name —AMPAC, which is short for American Medical Political Action Committee, an organization whose purposes are expressed in its name.

The Denver audience, especially in the A.M.A. House of Delegates, was given a briefing on the new organization, its aims, its objectives and its needs. Many physicians handed in their personal checks to support this new group. Many others signed pledge cards to obligate themselves to make financial contributions this year or in the next few years.

To understand the whys and wherefores of AMPAC, a study of federal law is necessary. Why should physicians be asked to put their own funds into a new organization when they are already paying dues to medical organizations? Why can't the existing organizations do the job that is now cut out for a new group?

Answers to these and similar questions can best be made by stating that federal laws prohibit many political activities by existing medical organizations. Therefore, to get a job of politics done, a new organization which can operate within the framework of federal laws must be formed and put into operation.

Asked if federal laws could not be changed to allow our present medical organizations to operate in the field of politics, attorneys must give a flat negative answer. The laws now on the books were put there to prohibit grasping organizations, whether they be connected with management or with labor, from contributing campaign funds to candidates for federal office and thus, in effect, "buying" candidates who would then represent an individual interest rather than the voters of a district.

This portion of our laws applies to corporations and to labor unions. Obviously, Congress will not entertain a move to change them.

The federal law is specific. It states that ". . . it is unlawful for any corporation *whatever*, or any labor organization, to make a contribution or expenditure in connection with any election at which Presidential and Vice-Presidential electors or a Senator or Representative in, or a Delegate or Residential Commissioner to Congress are to be voted for, or in connection with any primary election or political convention or caucus held to select candidates for any of the foregoing offices . . ."

The same law, however, recognizes the rights of free speech and freedom to petition the government. It provides, also specifically, for noncorporate political committees which have the right to engage in activities denied to corporations. A political committee has been described by attorneys as follows: "A political committee is the lawful and accepted vehicle for application of influence to federal elections and is recognized as such by Congress."

Thus the Congress has preserved for the people the right of free speech and the right to petition the government, while at the same time it has determined how these rights may or may not be exercised.

As applied to medical organizations, these provisions mean that medical associations as now organized cannot enter into federal political campaigns in behalf of candidates for office. The members of such organizations, however, retain their individual right to join a noncorporate political action committee which is not so proscribed.

The full meaning of this situation was grasped by labor unions several years ago, when a nationwide political action committee was set up. Labor's political activities have been directed through this group since its inception.

Medicine now comes up to the point where direct political action in behalf of candidates who may influence our national lawmaking can determine whether physicians can continue the practice of medicine as free individuals or will in the end become virtually government employees.

Obviously, this confrontation demands action. Political action. AMPAC is the answer.

AMPAC is organized as a noncorporate body. Its membership is voluntary. Its legal opportunities to support or oppose candidates for federal office are clear-cut. Its need to work in behalf of candidates who espouse a sound point of view, medically speaking, cannot be questioned.

While the American Medical Association cannot participate directly in these political activities, it does have the right to name the members of the governing board of AMPAC. It has provided for a board of seven members, six of whom must be members of the A.M.A. and the seventh a representative of the Woman's Auxiliary. An outstanding board has been named, with Gunnar Gunderson, past president of the A.M.A., as chairman.

Under this authority the board is bound, at all times, to represent the will of American medicine as determined in and expressed by the A.M.A.

Here at last, the medical profession has a chance to speak its mind on federal candidates. Here lies the opportunity to "support your friends and leave your enemies at home."

California physicians have long been aware of the activities of the Public Health League of California. Here is a political action committee which operates within our state borders, which acts as legislative representative for its professional members and which acts in behalf of candidates whose medical orientation is considered adequate and proper.

AMPAC is designed to fill the same niche nationally that the Public Health League does statewide.

All physicians are urged to take a close look at AMPAC and to give it the support it merits and needs. Where 100 Senators and 435 Representatives are concerned, the job is obviously of great magnitude.

It is a big job and an important one. It needs to be done—and very likely we are at or rapidly approaching the point where this may be our last opportunity to get it done. If we permit ourselves to be swallowed in the maw of federal bureaucracy, our opportunities, our desires and our potentials will rapidly recede to the vanishing point—as our colleagues in Great Britain attest.

Now is the time. AMPAC is the vehicle. We are the potential members. Let us all get behind this movement and give it the moral support—and especially the financial support—it so undeniably needs. Let us take this vital step before time runs out.

AMPAC CONTRIBUTIONS

Checks for contributions should be made payable to American Medical Political Action Committee and sent to 520 North Michigan Avenue, Chicago 11, Illinois.

A POSITIVE PROGRAM

We are *for* voluntarism.

We are *for* an improved public attitude toward older citizens.

We are *for* their integration into the mainstream of society.

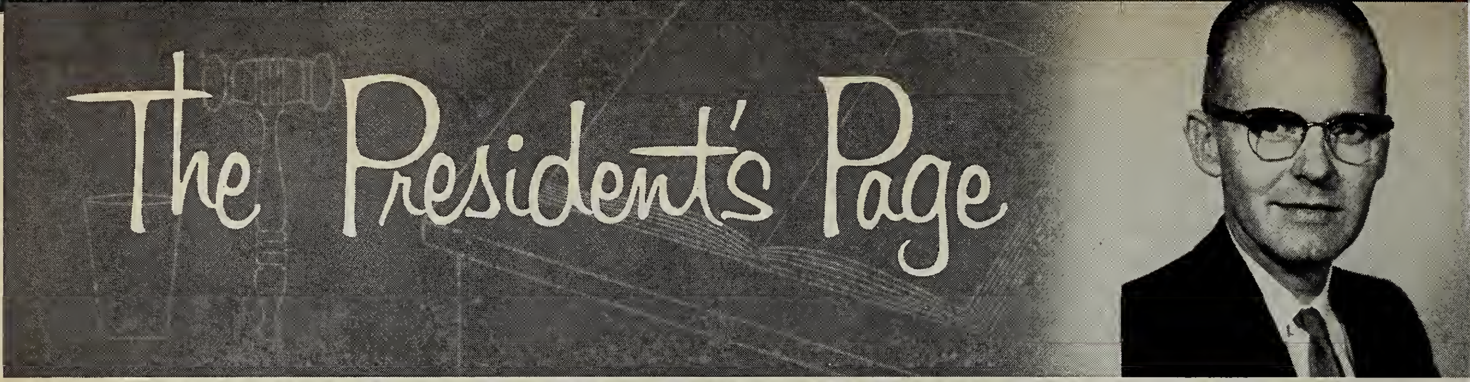
We are *for* measures designed to protect the earning capacity of those who can take care of themselves.

We are *for* a free profession, not an enslaved one.

We are *for* the preservation of our constitutional republic; we are opposed to a welfare state.

We are *for* the right of our citizens to spend their own dollars in their own way, not for Washington authoritarians to spend their money for them.

—*Summarization prepared by the Reference Committee on Reports of Officers, Dr. M. Louise C. Gloeckner, chairman, from the address of* LEONARD W. LARSON, *President of the American Medical Association, to the House of Delegates, at its meeting in Denver, November 26 to 30, 1961.*



The Third Man Theme

Heat not a furnace for your foe so hot that it do singe yourself.
—SHAKESPEARE, *Henry V*

IT TAKES A MAN young in practice much time to grasp the meaning of the "third party." Lest he appear stupid on the subject, he keeps waiting for someone to identify the party! After he has attended enough medical meetings and discussions on socioeconomic matters, the identity of this third man gradually becomes apparent. If he remains at home and lives in a quiet *cul de sac* of medical practice, he may never understand it.

Physicians like to think of the practice of medicine as a simple two-unit system—one doctor serving one patient, that is, party No. 1 and party No. 2. There was a time when this was true, and things were simpler then. But that tranquil day has long since passed for the civilized world. In fact a whole array of "parties" are now on the loose.

The original "third party" was the doctor's own society in its position as guardian of ethics, sanctionist against poor practice. The next "third party" of significance was the modern hospital. It became an essential part of the medical pattern, controlled a necessary segment of practice, and modified the pristine doctor's relationship to his patient. Third party No. 3 could be considered the pharmacist with his key position in regard to available medicines and costs, thus modifying treatment. Although disruptive at first, these "doctor modifiers" of professional type have found their place, react to reasonable doctor pressure and are now generally accepted as "part of the team."

A new separate category of "outside" modifiers of medical practice has appeared in the past generation. These are socioeconomic third parties that exert their influence either by tending to control the dollars for medical care, collective bargaining for the patient or by passing restrictive medical laws. They include insurance companies, labor unions, big business and government.

Although each is a new kind of third party, they are by no means equally dangerous to the American system of personal medicine—and this must always be remembered. By all odds the most malignant is unrestrained political patronage, Big Brother government medicine, and all that that implies. Carefully guided management and labor can be a major bulwark against government take-over, but in order to keep these powerful forces themselves within reason, medicine insists on, among other things, the concept of "free choice" on the part of individual patients.

And then there is the insurance industry that is the current unpopular "third party" of those who are too close to the trees to see the forest. Certainly the prepayment habits of Americans are forcing basic changes in savings patterns, including paying for health care. Of course there is a risk in change itself and naturally the insurance methods must be guided and molded. But to equate this in degree of danger to smothering by government is erroneous. In fact, voluntary prepayment health insurance is doubtlessly the single greatest defense against politicians that we have. And yet a few not only see the devil in the insurance device but go even further and astoundingly, maintain that insurance programs, guided, developed, and completely controlled by doctors themselves—such as C.P.S. and foundations—are dangerous third party schemes too!

Actually, the doctor's own voluntary prepayment health insurance organizations are the logical evolution of the *original* "third party"—that is, the medical profession itself. Either doctors must believe in the actions and responsibilities of their own organizations and grant them, through democratic methods, some of their individual prerogatives for the good of the vast majority, or all is lost.

Not every third party is bad. Its danger depends upon who controls or guides it. If guided by physicians, and susceptible to change with responsibility, it is no more than the mature, modern evolution of a medical society. However, to the degree that such is not the case, doctors must be on guard and retain a position of unified strength.

Warren L. Bostick M.D.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

A.M.A. Denver Meeting

This summary covers only a few of the many important subjects dealt with by the A.M.A. House of Delegates at its Denver meeting and is not intended as a detailed report on all actions taken.

SOCIAL SECURITY health care, relations with the American College of Surgeons, organization of the American Medical Political Action Committee, medical discipline and poliomyelitis vaccine were among the major subjects acted upon by the House of Delegates at the American Medical Association's Fifteenth Clinical Meeting held November 26 to 30 in Denver.

Sounding the keynote for the Association's campaign to oppose enactment of the King-Anderson type of legislation in 1962, Dr. Leonard W. Larson of Bismarck, N. D., A.M.A. president, told the opening session of the House that proposals to incorporate health care benefits into the Social Security system "would certainly represent the first major, irreversible step toward the complete socialization of medical care."

The compelling issue, Dr. Larson declared, is socialization versus voluntarism—or compulsion versus freedom of choice. He predicted that courage, determination and the will to win on the part of physicians will bring the defeat of the King-Anderson bill in Congress next year.

Pointing out that "we are engaged in an historic struggle to preserve our country's unique system of medical care and our stature as a profession," Dr. Larson said:

"We are *for* voluntarism. We do not believe that Americans, acting either as citizens or as patients, require central direction from government in their choice of doctor or hospital, in the spending of their health care dollars, or in their selection of the health services and facilities best suited to their own individual needs.

"We take our stand for voluntary cooperation, for preservation of the historic federal-state organizational structure, for individual responsibility, for help for those persons who *need* help."

Dr. Larson emphasized that the A.M.A. will continue to give primary attention to implementing the Kerr-Mills Act in the states, promoting voluntary health insurance and prepayment plans designed for the aged, and upgrading nursing homes.

The House of Delegates gave enthusiastic approval to Dr. Larson's address and took several actions reaffirming strong support for the Kerr-Mills program to aid the needy and near-needy aged, and urging a concerted, determined fight against Social Security health care proposals in Congress.

The House advised all state and county medical societies to recognize the impending threat and to prepare now for any eventuality by continuing to oppose any scheme which tries to impose a substandard system of medical care on the American people.

"United, as well as individual effort, is essential," the House declared. "To stop short of our total effort is to invite disaster and to let loose upon our beloved America irreversible forces which will ultimately destroy her. We cannot and we must not fail."

WARREN L. BOSTICK, M.D.	President
OMER W. WHEELER, M.D.	President-Elect
JAMES C. DOYLE, M.D.	Speaker
IVAN C. HERON, M.D.	Vice-Speaker
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American College of Surgeons

The House agreed with the intent of five resolutions which expressed strong dissatisfaction over recent statements by a spokesman for the American College of Surgeons, and it also approved a Board of Trustees report informing the House that arrangements have been made for a January meeting with the A.C.S. Board of Regents to discuss the organization's recent statements and policy positions. The report expressed hope that the meeting "will lead to a unification of effort in behalf of American medicine."

The House instructed the Board of Trustees to take the five resolutions to the January meeting and to report to the delegates as soon as possible on the results of the meeting. In taking the action, the House approved a reference committee report which said:

"Your reference committee believes the public airing of disagreements between large segments of medicine can only confuse and shake the confidence of the public in the medical profession and distort the true image of medicine which the American people should have.

"However, in its hearings upon the several resolutions relating to the recent statements of the American College of Surgeons, all those who testified were in opposition to the actions and statements of the A.C.S. The majority of those who spoke were Fellows of the American College of Surgeons.

"Your reference committee has no wish to fan the flames of controversy ignited by the statements of the American College of Surgeons. On the other hand, the committee feels the House has an obligation to its membership—which includes physicians in all types of practice—to agree with the indignation manifested by the introduction of these resolutions and in the discussions before the committee.

"This is all the more important because the position of the American College of Surgeons is based on an incorrect interpretation of the action of this House which in no sense is a retreat from its position of firm opposition to fee splitting."

American Medical Political Action Committee

The House heartily approved the purposes and goals of the recently-organized American Medical Political Action Committee and urged all physicians, their wives and interested friends to join A.M.P.A.C. and other political action committees in their states and communities.

"Effective political action must be carried on at the local level and effective implementation must be done by local groups of physicians," the House said. "The formation of A.M.P.A.C. recognizes the need for a national medical political action committee to coordinate the political activities of physician groups at all levels throughout the country."

The purposes of A.M.P.A.C., which is an organization separate and distinct from the American Medical Association as required by federal law, are:

1. To promote and strive for the improvement of government by encouraging and stimulating physicians and others to take a more active and effective part in governmental affairs.
2. To encourage physicians and others to understand the nature and actions of their government as to important political issues and as to the records and positions of political parties, officeholders and candidates for elective office.
3. To assist physicians and others in organizing themselves for more effective political action and for carrying out their civic responsibilities.
4. To do any and all things necessary or desirable for the attainment of the purposes stated above.

Medical Discipline

The House received from the Council on Constitution and By-laws a proposed amendment which would have made it possible to implement a recommendation by the Medical Disciplinary Committee that was approved by the House at the June, 1961, meeting. This recommendation was to change the by-laws so as to confer original jurisdiction on the Association to suspend and/or revoke the A.M.A. membership of a physician found guilty of violating the Principles of Medical Ethics or the ethical policies of the Association, regardless of whether or not action has been taken against him at the local level. However, after considerable discussion on the floor of the House, the proposed amendment was referred back to the Council on Constitution and By-laws.

In another action on medical discipline the House approved the expanded activities of the Judicial Council, which has taken over permanent responsibility in that area, and said that the Council program should benefit all physicians, the public and the profession.

Poliomyelitis Vaccine

The House adopted a resolution which urged that medical societies at the local, county, district or state levels throughout the United States should encourage, stimulate and participate in surveys to determine the percentage of individuals in each community who have undergone immunizing procedures for poliomyelitis.

The resolution stated that on the basis of the results of the surveys, the local medical society should determine the type of vaccine and the most effective type of program which will be of greatest benefit to the public.

Until such time as all three types of oral vaccine are available, the resolution concluded, the Salk vaccine should be the vaccine of choice for routine poliomyelitis immunization, with the choice of program for administering the vaccine to be determined on a local basis by each county medical society.

Miscellaneous Actions

In considering a wide variety of resolutions and annual and supplementary reports, the House also:

Disapproved of two proposals which would have required that **resolutions** be introduced 30 and 45 days, respectively, before Association meetings.

Approved a statement that physicians have an **ethical obligation** to participate in medical society activities and express their opinions fully and freely.

Reaffirmed A.M.A. policy that it is not considered unethical for a physician to own or operate a **pharmacy** provided there is no exploitation of the patient.

Agreed with the Judicial Council that the physician himself is responsible for the control and custody of **drug samples** once they come into his possession, and in the high tradition of the medical profession he should not dispose of them in any way that could cause harm to others.

Commended those constituent medical societies which have moved forward in the area of **human relations** by eliminating membership restrictions based on race or color. In connection with the same subject, Dr. Peter Murray of New York, retiring after 12 years of service in the House, told the delegates in a farewell address that Negro physicians now have some kind of medical society membership in every state except one.

Approved a recommendation that a special House committee be appointed to investigate all facets of the operation of the **Joint Commission on Accreditation of Hospitals.**

Agreed with the Board's choice of Miami Beach, Florida, as the site for the **1964 Clinical Meeting.**

Approved the combining of the American Medical Education Foundation and the **American Medical Research Foundation into the American Medical Association Education and Research Foundation,** effective January 1, 1962.

Deferred action on a proposed study of **fund raising** by voluntary health agencies, pending the development of additional information by the A.M.A. Committee on Voluntary Health Agencies.

Reaffirmed the previous policy that physicians have the privilege of prescribing drugs by either **generic or brand name.**

Approved the principle of **income tax deductions** for medical care of the aged.

Recommended, in reviewing the **Medicare Program,** that all county medical societies in the area surrounding armed forces hospitals make a serious attempt to establish formal liaison with the physicians on those hospital staffs.

Endorsed the administration of indigent medical care programs developed in cooperation with local medical organizations as a legitimate activity **of state and local health departments.**

Urged the elimination of all "categories" in programs of **assistance to the needy** at the federal and state level, with all assistance provided through a single program.

Referred to the Council on Medical Services a resolution proposing the use of state and federal tax funds to provide voluntary prepayment health insurance protection for the aged. In a related action the House approved of experimentation with **prepayment plans** under assistance programs.

Urged more vigorous promotion of voluntary non-profit prepayment health plans.

Urged every physician in the United States to use automobile **seat belts.**

Recommended, as a civil defense measure, a **mass immunization** program for the general public.

Suggested that the Board of Trustees continue its negotiations to develop a group **disability insurance** program for A.M.A. members.

Concurred in the Board's appointment of a special committee to study the organizational status of **A.M.A. Sections,** the functions of the Scientific Assembly and existing procedures for establishing medical certifying boards.

Instructed the Council on Medical Education and Hospitals to study the present and potential contribution of the **American Board of Abdominal Surgery** to the advancement of the art and science of surgery and the betterment of public health, to determine whether it should be approved as a recognized examining board.

Approved and commended the objectives and program submitted by the Committee for Liaison with **National Nursing Organizations.**

Recommended that the Secretary of Defense consider the advisability of developing a training program for **reserve medical** officers.

The A.M.A. Board of Trustees presented a special citation to the producers and cast of The Donna Reed Show for its "contribution to public understanding of the high ideals of the medical profession." Carl Betz, who portrays Dr. Alex Stone on the television show, received the award from Dr. Hugh H. Hussey Jr., A.M.A. Board chairman, at the Wednesday Session of the House.

Contributions totaling $435,275.93 from member physicians in six states were presented to the American Medical Education Foundation.

Final registration at the meeting reached a total of 6,138, including 2,976 physicians.

Council Meeting Minutes

Tentative Draft: Minutes of the 474th Meeting of the Council, San Francisco, November 11, 1961.

The meeting was called to order by Chairman Sherman in the Hilton Inn, San Francisco, International Airport, on Saturday, November 11, 1961, at 10:00 a.m.

Roll Call:

Present were President Bostick, President-Elect Wheeler, Secretary Hosmer, Speaker Doyle, Vice-Speaker Heron and Councilors MacLaggan, Wilson, Todd, O'Neill, Kirchner, O'Connor, Ham, Rogers, Dalton, Murray, Davis, Miller, Sherman, Campbell, Morrison, Kaiser, Anderson and Teall. Absent for cause, Editor Wilbur and Councilor Quinn.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Clancy, Thomas, Collins, Marvin, Whelan, Klutch, Tobitt, Edwards and Bowman and Doctors Batchelder and Miller of C.M.A. staff; Messrs. Hassard and Huber of legal council; Eugene Salisbury of the Public Health League; county executives Scheuber of Alameda-Contra Costa, Lingerfelt of Fresno, Geisert of Kern, Grove of Monterey, Blankfort of Marin, Field and Baker of Los Angeles, Dochtermann of Sacramento, Donmyer of San Bernardino, Nute of San Diego, Neick of San Francisco, Wood of San Mateo, Funk of Solano, Brown of Sonoma and Rideout of Butte-Glenn; Mr. Samuel Leask of the State of California; Dr. Daniel Lieberman of the State Department of Mental Hygiene; Mrs. Eunice Evans and Dr. Lester McDonald of the State Department of Social Welfare; T. Eric Reynolds and Messrs. Wilson Wahlberg, Etchel Paolini and Edward Nyron of California Physicians' Service; Mr. Richard Philleo of the American Medical Association; Doctors Dan O. Kilroy, Eugene Hoffman and others.

1. *Approval of Minutes:*

On motion duly made and seconded, an item inadvertently omitted from the minutes of the 472nd Council meeting, held August 19, 1961, was voted to be included in those minutes. This item reads as follows:

Commission on Professional Welfare

(a) Dr. Kirchner, chairman of the Commission on Professional Welfare, presented a statement relative to the tissue committee of a hospital staff, prepared by the joint committee of the Association and the California Hospital Association and requested that it be approved and be recommended for publication in CALIFORNIA MEDICINE.

On motion duly made and seconded, it was voted to approve this statement and to recommend its publication to the editor.

(b) Dr. Kirchner also reported that accidental death and dismemberment insurance for officers, councilors, staff and committee members could be obtained through Aetna Life Insurance Co., with Power & Dalziel as brokers, on a broader basis and at less cost than present coverage. On motion duly made and seconded, it was voted to approve the purchase of this coverage.

On motion duly made and seconded, minutes of the 473rd Council meeting, held September 23, 1961, were approved as amended.

2. *Membership:*

(a) A report of membership as of November 8, 1961, was presented and ordered filed.

(b) On motion duly made and seconded, seven delinquent members whose dues have now been paid were voted reinstatement.

(c) On motion duly made and seconded, 11 applicants for Associate Membership were voted that status. These were: Harold M. Erickson, Alameda-Contra Costa County; Lloyd Hall, Margaret Sedam, Fresno County; Raymond B. Crawford, Wilbur York Hallett, Daniel B. MacCallum, Los Angeles County; Eugene Wallace, Orange County; Shirley Jenkins Phelps, San Diego County; Erwin H. Braff, San Francisco County; Edward Arthur Blank, Joshua H. Rubinger, San Joaquin County.

(d) On motion duly made and seconded in each instance, five members were granted Retired Membership. These were: Michael A. Torrano, Clyde T. Wetmore, Alameda-Contra Costa County; Dudley Phelps Sanford, Monterey County; LaVerne P. Glenn, Frank A. MacDonald, Sacramento County.

(e) On motion duly made and seconded, nine members were granted reductions of dues for reasons of illness or postgraduate study.

3. *State Department of Health and Welfare:*

The chairman introduced Mr. Samuel Leask, newly appointed director of the recently formed Department of Health and Welfare in the State of California government. This department includes the departments of public health, social welfare and mental hygiene. Mr. Leask expressed his appreciation on being invited to the meeting and introduced the representatives of the three departments.

(a) Mrs. Eunice Evans of the State Department of Social Welfare, gave a progress report and stated that some cutbacks in services had become necessary in order to conserve funds.

(b) Dr. Daniel Lieberman of the State Department of Mental Hygiene gave a progress report on the department's long-range plans, which, he said, are based on the assumption that private sources will bear a portion of the problem of caring for the mentally ill.

(c) Dr. H. C. Pulley of the Department of Public Health reported that a public hearing would be held December 8 on procedures and regulations to be followed under new state laws requiring (1) poliomyelitis vaccinations for school children and (2) control of radiation equipment. The latter law will affect all physicians and dentists who maintain x-ray equipment.

Dr. Pulley presented a polio immunization card for use by school children to register their vaccinations, the card to be subsidized by a national voluntary health organization. On his request for Council approval, it was regularly moved, seconded and voted to request the Commission on Community Health Services to review this card, the commission being given authority to act and instructions to proceed immediately.

Mr. Leask then discussed the question of fees to be paid by the state for medical services provided under several programs. The State Department of Finance and the Legislative Analyst have ruled tentatively that all such medical fees be frozen at existing levels and in no case at a level above factor four on the 1957 Relative Value Studies. Mr. Leask read a prepared memorandum which proposed that this entire subject be placed under the jurisdiction of a fee advisor in the State Department of Finance.

It was agreed that a meeting scheduled for November 15 between representatives of several state departments and members of the Association's Committee for Emergency Action should proceed and Mr. Leask indicated his intention to be present.

On motion duly made and seconded, the following resolution was adopted:

Resolved: That the C.M.A. Committee for Emergency Action be guided in its discussions with agencies of the California State government regarding fee schedules (for programs of medical care paid for by the state) by the following concepts:

1. Conditions of services, including fees paid for professional services, should be adequate to assure widespread participation by California physicians.

2. Existing fee schedules in use by the state are archaic and inadequate and urgently need upward revision in order to conform with prevailing economic conditions and practices in the state.

3. Fees paid by the new M.A.A. (Medical Assistance to the Aged) program should in no case be lower than those paid in any other state medical program.

4. All future considerations of professional fees for state financed medical care programs should invite and heavily rely on advice from organizations representing those professions which will provide the services.

In addition, the Council voted to reaffirm the position that it has no authority to approve or enforce any fee schedule for C.M.A. members. Therefore, each physician remains completely free to make his own decision as to participation in any state medical care program and as to the appropriate fee which he may charge for the service provided.

It was further moved, seconded and voted that any future program for government medical care must include fee discussions with California Physicians' Service.

4. *Medical Quackery:*

Dr. Sol Baker gave a report on a Conference on Medical Quackery recently sponsored by the American Medical Association and several government agencies and attended by state medical association representatives, including Dr. Baker and Dr. Eugene Miller. The conference was so successful that Dr. Baker urged the Council to have the C.M.A. sponsor a similar meeting in California. He was assured that consideration would be given to this suggestion.

5. *California Physicians' Service:*

Dr. Morrison gave a progress report on California Physicians' Service and pointed out that close to 15,000 physicians are now professional members.

6. *A.M.A. Conference on Prepaid Health Insurance:*

Dr. Anderson reported on the second annual Conference on Prepaid Health Insurance sponsored by the A.M.A. and attended by several California representatives. Representatives of labor, government and the insurance industry also participated. The two chief trouble areas in prepaid health insurance, he stated, were the presence of a few individuals who abuse the plans and who require disciplinary measures and the presence of poorly drawn contracts which present difficulties in interpreting benefits.

7. *Closed Chest Resuscitation:*

The chairman reported that the California Heart Association, which had been requested to prepare a basic program for the teaching of closed chest resuscitation, including the scope and techniques of treatment and the eligibility of those who would be trained, had presented a tentative draft of a program. On motion duly made and seconded, it was voted to authorize the chair to name a committee which could meet jointly with a committee of the California Heart Association on this subject. The chairman then named the Commission on Community Health Services to establish the committee membership.

8. *Report of President-Elect:*

Dr. Wheeler reported that he has now visited a number of county societies in the northern part of the state, including societies in four councilor districts. He has found, he said, that most physicians are well-informed on general medical topics but not adequately informed on legislative proposals which may adversely affect their practices. He urged that all means possible be used to spread this information.

9. *Committee on Committees:*

Dr. Wheeler made the following nominations for committee appointments, all of which, on motion duly made and seconded, were approved:

1. Bureau of Research and Planning—John J. Sheehy of Riverside to fill the unexpired term (1962) of Lyle Craig.
2. Committee on Legislation—Stuart Knox, Los Angeles, to fill unexpired term (1963) of J. Lafe Ludwig.
3. Advisory Committee to California Medical Assistants' Association—Add David Dugan, Oakland (1964), Samuel Gendel, Anaheim (1963) and R. Stanley Kneeshaw, San Jose (1962) and the President-Elect, ex-officio. Dr. Stuart Smith to be chairman.
4. Committee on School Health—B. Otis Cobb to succeed Kendall Holmes (1964).
5. Committee on Rural Health—Add John Heckman (1963).

The committee also proposed that a report by staff members on recommendations on creation of a Communications Division be referred to the Committee on Organization and Procedures. This referral was approved.

10. *Report of the President:*

Dr. Bostick discussed several of the major problems facing medicine today. He listed these, in order of importance, as including communications, the need to make prepayment plans work and the unification of osteopathy.

Dr. Bostick also presented a request from the Woman's Auxiliary for an opinion on a proposal that Auxiliary dues be collected by county societies which are willing to make these collections. On motion duly made and seconded, it was voted to approve this proposal as a permissive plan, with authority on implementing it to remain in the hands of the county societies.

11. *Speakers' Bureau:*

Dr. Anderson discussed the program of the Speakers' Bureau and presented a resolution which was seconded and voted.

Resolved: That the Council authorize the PIMECS project, in concert with the Committee for Emergency Action, to utilize unbudgeted reserve funds for the purpose of adding to C.M.A. staff, on a temporary basis, in order to fully utilize effective communications media and techniques to inform responsible segments of the public regarding the impact of current and proposed legislation on the health and medical care of the public.

12. *Commission on Community Health Services:*

Dr. MacLaggan reported on the inspection of hospitals in San Diego County carried out in a two-day period immediately preceding the meeting of the California Hospital Association. On motion duly made and seconded, it was voted to authorize the chairman of the Hospital Liaison Committee to forward letters to the hospitals advising them of the results of the inspection.

Dr. MacLaggan further reported, for the committee on Traffic Safety, that a pamphlet had been prepared for the use of county societies in promoting traffic safety at the county level. He also distributed a prescription blank for automobile seat belts, to be given to patients by physicians. On motion duly made and seconded, both these items were approved.

On motion duly made and seconded, approval was voted for a pamphlet entitled "Work Prescription for Heart Patients" which will be sent to C.M.A. members by the California Heart Association.

13. *Finance Committee:*

Dr. Teall presented combined and condensed balance sheets of the Association and of Trustees of the California Medical Association as of October 31, 1961, and operating statements of the Association for the four months ended October 31, 1961. These were accepted and ordered filed.

14. *Committee on Organization and Procedures:*

Dr. Hosmer presented a progress report of the Committee on Organization and Procedures, incorporating three proposals which, on Council approval, would be activated for the 1962 Annual Session. These were:

1. Resolutions to be presented to the House of Delegates shall be forwarded to the C.M.A. office at least 30 days prior to the meeting. Additional resolutions may be sent in up to seven days before the meeting but any resolutions presented less than seven days before the meeting shall be reviewed by the Council and shall be introduced if they are of a true emergency nature.
2. Meetings of the House of Delegates shall be scheduled for Saturday evening, Tuesday afternoon and Wednesday morning.

3. Reports of the Council and all financial reports shall be printed in CALIFORNIA MEDICINE in advance of the meeting. All other reports shall be printed in a preconvention bulletin to be distributed to members of the House of Delegates.

On motion duly made and seconded, these proposals were approved and ordered implemented.

15. *Advertising Committee:*

Advertising copy to promote a postpayment medical care financing plan was presented for a policy decision and, on motion duly made and seconded, was approved for acceptance.

16. *Commission on Medical Services:*

It was reported that the Joint Council to Improve Health Care of the Aged had adopted a resolution commending Dr. Allan E. Voigt of Napa for his dedicated pioneering in fostering improved medical care for the older citizens. The Council approved this commendation and concurred.

Dr. Batchelder further reported that the first eight certificates of approval had been distributed to nursing homes by the Joint Commission for Accreditation of Nursing Homes and Related Facilities.

17. *Commission on Professional Welfare:*

Councilor Kirchner and Dr. Homer Pheasant reported that about $150,000 in premiums was to be returned to participating members in the Association's disability insurance program. Covering letters on this return of premiums are to be signed by the underwriting company or by the administrator.

18. *Conference of County Society Officers:*

Dr. Todd presented the tentative program for the annual conference of county society officers which is planned for February 17 and 18, 1962. On motion duly made and seconded, the format and dates of the conference were approved. A proposed budget of $16,797 was referred to the Finance Committee for review.

19. *Committee on Legislation:*

Mr. Salisbury gave a progress report on the several interim committees of the Legislature which are looking into proposals made for the control of various drug prescriptions.

20. *Public Relations:*

Mr. Clancy reported on two regional public relations conferences held to date in a proposed statewide series. These have been deferred for further implementation until results of the original two conferences can be clarified and analyzed.

Mr. Clancy also commented favorably on a presentation made by Mr. William Scheuber, executive secretary of the Alameda-Contra Costa Medical Association, before the East Bay Labor Council. The Council agreed that this should be reproduced for further use.

21. *Committee on Rural Health:*

Dr. Carroll Andrews, a member of the A.M.A. Council on Rural Health, presented an outline of an A.M.A. Rural Health Regional Conference planned for Sacramento in October, 1962, and asked the cooperation of the C.M.A. On motion duly made and seconded, it was voted to refer this to the Committee on Rural Health for implementation.

22. *Delegates to the A.M.A.:*

Dr. Davis reported on recent public statements by a medical organization which had resulted in some division of opinion among physicians and asked that the Council suggest to the A.M.A. delegation that it use its good offices in healing any breach and restoring unity.

23. *Legal Department:*

On motion duly made and seconded, legal counsel was authorized to retain associate legal counsel to assist in litigation currently in the courts in Los Angeles.

24. *Reports on Communicable Diseases:*

President Bostick reported that proposed state regulations would require laboratories to provide copies of their reports (to referring physicians) on several types of communicable diseases to local health officers. He questioned this proposal as an invasion of privacy and asked that it be studied further.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 5:40 p.m. in memory of Richard Lyon and Clem Whitaker.

SAMUEL R. SHERMAN, M.D., *Chairman*
MATTHEW N. HOSMER, M.D., *Secretary*

No. 4*

Standing Orders — Are You Liable?

THE PURPOSE OF THIS ARTICLE is to discuss the legal responsibilities of the industrial physician concerning standard procedures for nurses, signed by a physician.

Section 2726 of the Business and Professions Code specifically provides that no authority is conferred to nurses to practice medicine or to undertake the prevention, treatment or cure of disease or injuries, except when working under the orders of a physician.

Since a physician is not in regular attendance in most industrial health units, both legal and ethical considerations dictate that the duties of an industrial nurse, as they concern patient care, ought to be set forth in a written set of standard procedures signed by the physician in charge. These written standard procedures should cover the necessary nursing services to be given in both emergency and routine situations before the ill or injured employee is seen by a physician. They should also embrace the types of minor injuries or ailments that might be incurred by the employees in the industry and specify the kind of nursing care to be given.

The law imposes the duty on a physician to give an industrial nurse all necessary and proper medical instructions. Failure to give such instructions could be negligence, which could render the plant physician liable for injuries caused by such negligence.

The physician in charge should assure himself that the nurses employed by the plant are well qualified and prepared, possessing that degree of skill and learning generally possessed by registered nurses employed in that capacity in the community.

The nurse, of course, is liable for her own negligence or wrongful acts. If ordinary careful examination would have discovered the nature of the injury or ailment and she failed to make it, she may be negligent. Inaction in the presence of danger signals which would have moved a reasonably intelligent nurse to promptly get a physician, might be negligence.

SUMMARY

The industrial medical service of a plant should be under the direction of a licensed physician. The failure of the physician in charge to give proper instructions could be negligence which would render him liable for damages for injuries caused thereby. He should be available on call. He should assure himself that the nurses employed by the plant are well qualified.

COMMITTEE ON OCCUPATIONAL HEALTH
CALIFORNIA MEDICAL ASSOCIATION

REFERENCES

J.A.M.A., Vol. 159, No. 10, p. 1028-1033, Nov. 5, 1955.

A.M.A. Council on Occupational Health, Guiding Principles and Procedures for Industrial Nurses in Care of Eye Injuries, Vol. 174, No. 5, p. 536-539, Oct. 1, 1960.

Guiding Principles and Procedures for the Registered Professional Nurse in Industry; Occupational Health, Committee on Industrial Health, State Medical Society of Wisconsin, p. 8-34, Jan. 1957.

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*This is the fourth of a series of articles prepared by the Committee on Occupational Health.
Prepared for the Committee on Occupational Health by Mr. Howard Hassard and Mr. William Whelan.

NEXT MONTH: **THE RURAL OCCUPATIONAL HEALTH PARADOX**

In Memoriam

Adams, Harold Giamboni, Los Angeles. Died November 7, 1961, in Los Angeles, aged 36, of third degree burns. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1952. Licensed in California in 1953. Doctor Adams was a member of the Los Angeles County Medical Association.

◆

Anderson, Frank Russell, Los Angeles. Died November 19, 1961, in Los Angeles, aged 62, of melanoma with generalized metastases. Graduate of the University of Nebraska College of Medicine, Omaha, 1924. Licensed in California in 1924. Doctor Anderson was a member of the Los Angeles County Medical Association.

◆

Brothers, Ridgeway H., Berkeley. Died November 23, 1961, in Berkeley, aged 54. Graduate of Northwestern University Medical School, Chicago, Illinois, 1941. Licensed in California in 1941. Doctor Brothers was a member of the Alameda-Contra Costa Medical Association.

◆

Carlile, Morton N., Lakeside. Died November 14, 1961, in San Diego, aged 71. Graduate of Baylor University College of Medicine, Houston, Texas, 1925. Licensed in California in 1927. Doctor Carlile was a member of the San Diego County Medical Society.

◆

Danicich, Michael A., San Francisco. Died December 1, 1961, in San Francisco, aged 57. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1930. Licensed in California in 1934. Doctor Danicich was a member of the San Francisco Medical Society.

◆

Ferrara, Rosario John, San Diego. Died September 22, 1961, in San Diego, aged 67, of cirrhosis of the liver. Graduate of Fordham University School of Medicine, New York, 1920. Licensed in California in 1959. Doctor Ferrara was a member of the San Diego County Medical Society.

◆

Hermann, William Bernard, Anaheim. Died November 17, 1961, in Anaheim, aged 37. Graduate of Wayne State University College of Medicine, Detroit, Michigan, 1955. Licensed in California in 1957. Doctor Hermann was a member of the Los Angeles County Medical Association.

◆

Knopf, Benjamin William, Oakland. Died November 22, 1961, aged 59, of myocardiac infarct. Graduate of the Rochester School of Medicine and Dentistry, New York, 1929. Licensed in California in 1930. Doctor Knopf was a member of the Alameda-Contra Costa Medical Association.

◆

Leibee, John R., Burney. Died December 7, 1961, aged 73. Graduate of Creighton University School of Medicine, Omaha, 1916. Licensed in California in 1943. Doctor Leibee was a member of the Shasta-Trinity County Medical Society.

◆

McClatchey, Warren S., Springville. Died November 25, 1961, in Springville, aged 61. Graduate of the University of Nebraska College of Medicine, Omaha, 1933. Licensed in California in 1936. Doctor McClatchey was an associate member of the Tulare County Medical Society.

◆

Parker, Robert Bassir, San Pedro. Died June 9, 1961, in Wilmington, aged 52, of intracranial hemorrhage. Graduate of the Universite de Paris Faculte de Medecine, 1948. Licensed in California in 1954. Doctor Parker was a member of the Los Angeles County Medical Association.

◆

Rosenkranz, Herbert Augustus, Los Angeles. Died December 3, 1961, in Los Angeles, aged 78, of cerebral thrombosis. Graduate of the College of Physicians and Surgeons, Los Angeles, 1910. Licensed in California in 1910. Doctor Rosenkranz was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

◆

Ruff, Frank Roxborough, Fresno. Died June 30, 1961, in Fresno, aged 72, of leukemia. Graduate of the University College of Medicine, Richmond, Virginia, 1913. Licensed in California in 1926. Doctor Ruff was a member of the Fresno County Medical Society.

◆

Schmitz, William G., San Francisco. Died December 6, 1961 in San Francisco, aged 49. Graduate of Stritch School of Medicine of Loyola University, Chicago, 1940. Licensed in California in 1940. Doctor Schmitz was a member of the San Francisco Medical Society.

◆

Suski, Peter M., Los Angeles. Died August 31, 1961, aged 85, of heart disease. Graduate of the College of Physicians and Surgeons, Los Angeles, 1917. Licensed in California in 1917. Doctor Suski was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an Associate member of the American Medical Association.

◆

Szabo, Stephen Alvin, Long Beach. Died November 24, 1961, at Running Springs, Arrowhead, aged 48, of a massive coronary with contributory causes. Graduate of St. Louis University School of Medicine, Missouri, 1938. Licensed in California in 1945. Doctor Szabo was a member of the Los Angeles County Medical Association.

◆

Williams, Geoffrey, Santa Monica. Died November 8, 1961, in Santa Monica, aged 69, of heart disease. Graduate of the College of Medical Evangelists School of Medicine, Loma Linda-Los Angeles, 1916. Licensed in California in 1916. Doctor Williams was a member of the Los Angeles County Medical Association.

◆

Yoder, Earl Henry, Los Angeles. Died November 24, 1961, in Los Angeles, aged 71, of acute coronary thrombosis. Graduate of the Hahnemann Medical College and Hospital, Chicago, Illinois, 1913. Licensed in California in 1925. Doctor Yoder was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

Ninety-first Annual

CALIFORNIA MEDICAL ASSOCIATION

APRIL 15-18, 1962

SIX OUTSTANDING GUEST SPEAKERS

Surgery

MICHAEL E. DeBAKEY, M.D., Professor and Chairman of Department of Surgery, Baylor University College of Medicine, Houston.

Anesthesiology

ARTHUR S. KEATS, M.D., Professor of Anesthesiology, Baylor University College of Medicine, Houston.

Pathology

MALCOLM B. DOCKERTY, M.D., Surgical Pathologist, Mayo Clinic, Rochester.

Internal Medicine

E. GREY DIMOND, M.D., Director, Institute for Cardiopulmonary Diseases, Scripps Clinic and Research Foundation, La Jolla.

Cardiovascular Research

LOUIS N. KATZ, M.D., Director of Cardiovascular Research, Michael Reese Hospital and Medical Center, Chicago.

Pediatrics

ALEXANDER S. NADAS, M.D., Associate Clinical Professor of Pediatrics, Harvard Medical School, and Cardiologist, Children's Hospital Medical Center, Boston.

Management of Occlusive Arterial Disease

What's New in Hypertension? • Thromboembolism

C.M.A. SPOTLIGHT ON MEDICINE 1962

Clinical Use of the New Penicillins

Pediatric Cardiology • Ovarian Tumors

TRAINING PHYSICIANS FOR CALIFORNIA'S MEDICAL NEEDS

Who Will Be the "Family Doctors" in 1970?

Scientific Meeting...

SPECIAL FEATURE: *Basic Science Session*

Chemistry

WENDELL H. GRIFFITH, PH.D., Professor and Chairman, Department of Physiological Chemistry, UCLA School of Medicine.

Anatomy

HORACE W. MAGOUN, PH.D., Professor of Anatomy, Member of Brain Research Institute, UCLA School of Medicine.

Biology

C. M. POMERAT, PH.D., Director, Division of Cellular Biology, Pasadena Foundation for Medical Research, and Clinical Professor of Pathology, Loma Linda University School of Medicine.

Pharmacology

JOHN WEBB, PH.D., Professor and Head of Department of Pharmacology, USC School of Medicine.

Other Attractions

- CLOSED CIRCUIT COLOR TELEVISION—From Presbyterian Medical Center. Participating Panels will include Guest Speakers. Television Programs will be shown Monday, Tuesday and Wednesday mornings.
- MEDICAL MOTION PICTURE SYMPOSIA—Motion picture symposia will be held Sunday, Monday and Tuesday afternoons and evenings and Wednesday afternoon.
- Pre-Convention Cancer Conferences on Pathology and Radiology, Saturday, April 14.
- Presidents' Dinner Dance, Sunday night, Venetian Room, Fairmont Hotel.
- House of Delegates Opening Session, Saturday evening, April 14; Tuesday afternoon and all day Wednesday.
- Hotel Reservations: See page 62.

PLAN NOW TO ATTEND

Sunday through Wednesday, April 15-18, 1962

FAIRMONT HOTEL, SAN FRANCISCO

APPLICATION FOR HOTEL ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association,** April 15-18, 1962, San Francisco, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, your chance of securing accommodations of your choice will be better if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

All Reservations must be made through the C.M.A. Housing Bureau

DEADLINE: MARCH 16, 1962

Ninety-first Annual Session

CALIFORNIA MEDICAL ASSOCIATION

San Francisco, California

APRIL 15*-18, 1962

HOTEL ROOM RATES†

	Single	Twin Beds	Suites
MARK HOPKINS* **(HEADQUARTERS)** California and Mason	18.00-22.00	22.00-26.00	35.00-110.00
FAIRMONT California and Mason	17.00-24.00	21.00-28.00	40.00- 96.00
FAIRMONT TOWER California and Mason	26.00-31.00	30.00-36.00	from 65.00
HUNTINGTON 1075 California	14.00-20.00	15.00-25.00	40.00- 50.00
SHERATON-PALACE Market at New Montgomery	9.85-15.00	13.85-19.00	25.00- 75.00
ST. FRANCIS Powell and Geary	12.00-24.00	15.00-27.00	30.00- 55.00
SIR FRANCIS DRAKE Sutter and Powell	12.00-17.00	14.00-22.00	34.00- 52.00
JACK TAR Van Ness and Geary	14.00-24.00	16.00-24.00	32.00- 54.00

***April 14: House of Delegates will start with evening meeting Saturday, April 14, at the Mark Hopkins Hotel; all Scientific Sessions and Exhibits will be at the Fairmont Hotel.**

†The above quoted rates are existing rates but are subject to any change which may be made in the future.

CALIFORNIA MEDICAL ASSOCIATION—Housing Bureau
693 Sutter Street
San Francisco 2, California

Please reserve the following accommodations for the 91st Annual Session of the California Medical Association, in San Francisco, April 15-18, 1962. (House of Delegates members: First meeting of House begins Saturday afternoon, April 14, Mark Hopkins Hotel.)

Single Room $ Twin-Bedded Room $

Small Suite $ Large Suite $ Other Type of Room $

First Choice Hotel Second Choice Hotel

ARRIVING AT HOTEL (date): Hour: A.M. P.M.

Leaving (date) Hour: A.M. P.M.

Hotel reservations will be held until 6:00 p.m., unless otherwise notified.

THE NAME OF EACH HOTEL GUEST MUST BE LISTED. Therefore, please include the names of both persons for each twin-bedded room requested. Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

Individual Requesting Reservations—Please print or type:

Name

Address

Officer? Delegate? Alternate?

County

City and State

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, *M.D., M.P.H.*
Director, State Department of Public Health

EFFECTIVE January 14, 1962, vaccination against poliomyelitis will be a requirement for school enrollment. The State Board of Public Health in its December meeting adopted regulations putting California's compulsory school poliomyelitis immunization law into effect on that date.

Students who are already admitted this school year will be required to give evidence of immunization against poliomyelitis when they come up for reenrollment, in most instances next September.

In general, the compulsory vaccination law applies to all pupils enrolled in school from kindergarten through junior college. However, exception from the requirement is provided where immunization is contrary to the belief of the pupil or parent.

The regulations define pupil as an individual of any age admitted to public or private elementary or secondary schools, including kindergarten, through junior colleges and adult education classes. *Admission* means the first enrollment of the pupil into a school in the school year.

Immunizing agents and immunization procedures acceptable for the purpose of the law shall be those approved by the State Health Department. *Immunizing agent* means any currently approved commercially produced vaccine licensed by the Division of Biologics Standards, U. S. Public Health Service, for immunization against poliomyelitis Types I, II and III. Combined vaccines containing other immunizing agents together with all three types of poliomyelitis vaccine, such as commercially available quadruple vaccines, are acceptable if these have been approved and licensed for general use by the Division of Biologics Standards.

For Salk-type vaccines, immunization shall consist of a total of three inoculations at any interval except that the interval between the first and second and between the second and third inoculations shall not be less than two weeks.

A pupil may be admitted to school upon presenting evidence of having received at least one inoculation of Salk-type vaccine. Then evidence must be presented within a period of not more than one year that a series of three inoculations has been completed.

At this time the Sabin attenuated live virus oral vaccine is not considered adequate immunization because only Types I and II vaccine are available. However, if a pupil has participated in an oral vaccine field trial program and can present evidence of having received all three types of the oral vaccine, he shall qualify for admission.

Evidence of immunization will be a written record given to the pupil or to his parent or guardian by the physician or the agency performing the immunization and shall include the name of the child or adult, date of birth, date of each vaccination, the type of vaccine used and the name of the agency or of the physician administering the vaccine. In the event a written record cannot be obtained parents or guardians of minor pupils or an adult himself may affirm in writing that such immunization has been performed.

For pupils who received immunization before January 1, 1962, a written statement by the parent or guardian (or by the pupil if he is an adult) giving the approximate dates when such immunization was received shall be presented to the school authorities. A statement by a physician or by an agency having administered the immunization is not required for this purpose.

* * *

Questions have arisen regarding the use of the oral poliomyelitis vaccine before the approval and licensing of all three types. The State Health Department has analyzed recent statements concerning this use by the American Medical Association, the Committee on the Control of Infectious Diseases of the American Academy of Pediatrics, the Association of State and Territorial Health Offices, and the U. S. Public Health Service.

Consensus of these statements is:

1. The Salk vaccine should be the vaccine of choice for routine immunization until such time as all three types of oral vaccine have been licensed and are available.

2. The only present recommendation for the use of the type-specific oral vaccine for mass immunization is during periods of epidemic poliomyelitis when the prevalent virus type is Type I or Type II.

The State Department of Public Health concurs with these recommendations.

WOMAN'S AUXILIARY

TO THE CALIFORNIA MEDICAL ASSOCIATION

Physicians' Benevolence is not the pot at the end of the rainbow but it is a fund for you. It will help you, your widow, and your children if emergency aid is required. The definition of "needy" means persons in ill health or unable to temporarily take care of themselves. This fund is not an insurance retirement fund—you will have to provide for yourself in this category.

Each year in California Medicine, a report and audit are written regarding Physicians' Benevolence. Do you ever read it? You should! One dollar of your dues each year goes toward this fund.

The Physicians' Benevolence Committee was organized in 1940 by the California Medical Association. One dollar from each member's dues was used to finance the fund. This committee was disbanded in 1955 and a nonprofit corporation was formed. In May, 1956, your delegates to California Medical Association passed a constitutional amendment approving the Physicians' Benevolence Fund, Inc. Each year the Woman's Auxiliary makes a donation which is collected from the county auxiliaries. Including dues, donations, and interest, revenue for Physicians' Benevolence amounts to approximately $22,000 a year.

Twelve to eighteen doctors, widows or families are helped each year at a cost of around $10,000. Los Angeles County Physicians' Aid receives $6,000 per year. This money is used to partially defray the costs of the Los Angeles Physicians' Aid Home and to help provide care for many needy outside the Home. The Home accommodates thirty-six persons. At present the majority are widows. The Home has recently built a nursing home close to its present location. Fifty thousand dollars of the construction money needed was borrowed from the Physicians' Benevolence Fund at 2½ per cent interest. Admission to the Home is made in the following order: (1) Doctor members of Los Angeles County Medical Society, (2) doctors who have practiced in Los Angeles County, (3) doctors who have practiced in California and are or have been members of their local medical society, and (4) doctors who have practiced in California. Widows and dependents fit under the husband's classification. Board and room are charged those who can afford to pay. Fortunately, Los Angeles County has this program for its own members, since with their large membership of nearly eight thousand doctors, the state fund could never begin to support the Los Angeles needs.

Application for funds from Physicians' Benevolence may be made through John Hunton, executive secretary of the California Medical Association. Investigation of the application is done by the executive officer of the applicant's county society in a way so not to embarrass anyone. The Physicians' Benevolence Committee approves or rejects the application. In an emergency case, money can be forthcoming at once and the investigation done later. The maximum money given is $250 a month. Each case is reviewed every four to six months until there is no longer any need for the money. Most applicants have some money or family that can be called on for assistance.

The operation committee for Physicians' Benevolence consists of Doctors Ford P. Cady and Elizabeth Mason-Hohl of Los Angeles, Don C. Musser of San Francisco, Clyde L. Boice of Santa Clara and George C. Wolf of Fresno County. The funds are administered by the Council of the California Medical Association. The staff of the California Medical Association handles all operating details and the only cost of administration is a modest professional fee for auditing the books each year.

The goal of the Physicians' Benevolence Fund is to become self-supporting. I do not believe that this is possible in our lifetime unless more money is given. At the time of the last audit, the assets were approximately $122,000 of which $6,000 is added per year from excess of income over expenditures. In today's market it would take $500,000 at 4 per cent to provide the fund with the $20,000 which it needs to operate. A large majority of doctors in California have started practice since 1945 and as a result, our state has a young medical population. In 1980, Physicians' Benevolence could be an overworked fund. To provide for tomorrow, this fund needs more money today. Both partners of the medical family must give. "Charity begins at Home."

Mrs. Ward L. Hart
Chairman, Physicians' Benevolence
Woman's Auxiliary to the
California Medical Association

NEWS & NOTES

NATIONAL · STATE · COUNTY

FRESNO

Dr. David R. Taylor of Fresno was installed as president of the Fresno County Medical Society at the society's December meeting. He succeeds Dr. Robert Kass. Dr. Arthur F. Howard was elected president-elect, Dr. Theodore Steinberg vice-president, and Dr. Harlan F. Fulmer secretary-treasurer. Dr. Kass and Dr. W. L. Argo were elected delegates to the California Medical Association.

LOS ANGELES

Some 300 county and district society officers and other guests will convene at the Ambassador Hotel, Los Angeles, February 17 and 18 for the **annual conference of county society officers** held under auspices of the California Medical Association. The discussions will be given over to **Medical Care and Public Policy.**

Discussants include 14 nationally known leaders in the fields of medicine, publishing, economics, sociology, health insurance, labor and government. A.M.A.'s executive vice-president, Dr. F. J. L. Blasingame, will make the opening presentation following introductory remarks by C.M.A.'s president, Dr. Warren Bostick. Three prime areas will be covered during the ensuing two-day session, including the scope of health insurance, the quality of medical care and C.M.A. objectives and policies.

Dr. Malcolm Todd, of Long Beach, is general chairman.

* * *

Dr. Ian Macdonald, Los Angeles, was elected president of the Los Angeles County Medical Association for 1962, Dr. Allan K. Briney of Whittier was elected vice-president, and Dr. Richard L. Taw of Los Angeles, secretary-treasurer. Elected to the Association's board of trustees were Drs. Elmer Gooel of Beverly Hills, Edward H. Crane of Inglewood and J. W. St. Geme of Los Angeles.

* * *

Dr. Stafford Warren, dean of the U.C.L.A. School of Medicine, has been appointed to the newly created position of **Vice Chancellor of Health Sciences** of the university by the Board of Regents, effective July 1, 1962. He will continue as dean of the medical school.

* * *

The following officers were elected for 1962 by the **Metropolitan Dermatological Society** of Los Angeles: President, Dr. Rose B. Saperstein; vice-president, Dr. John W. Carney; secretary-treasurer, Dr. Sidney J. Rose.

* * *

The availability of a **research fellowship in clinical cardiovascular physiology** in the Department of Medicine has been announced by the University of Southern California School of Medicine. The appointment is to be for a period of one to two years. Emphasis is on physiological investigation in patients for study of hemodynamic mechanisms of cardiovascular disease. Applicants are required to be licensed or eligible for medical licensure in the state of California.

ORANGE

Dr. W. K. Friend of Santa Ana became president of the Orange County Medical Association at the beginning of this year, succeeding Dr. Thomas E. Hanigan, also of Santa Ana. Dr. Harold F. Galbraith of Fullerton has been elected president-elect. Dr. Waynard W. Lowe of Fullerton will continue as secretary-treasurer.

Drs. Richard Preston and I. B. Price of Santa Ana and Lawrence F. Whittaker of Huntington Beach were elected delegates to the California Medical Association.

SAN FRANCISCO

Dr. A. Justin Williams was elected president-elect of the San Francisco Medical Society at the society's annual elections in December. He will succeed this year's president. Dr. Eugene M. Webb, at the beginning of 1963. Dr. Charlotte C. Baer was elected vice-president, Dr. Edgar Wayburn secretary, Dr. Albert G. Clark treasurer and Dr. Helen E. Weyrauch editor.

* * *

A Heart Research Center has been established at the Presbyterian Medical Center through an initial grant of approximately $2,000,000 from the National Institutes of Health.

The new center was created to do clinical research in general areas of heart disease. The funds provide for the **development of techniques** for operations on the heart, bringing back former patients for study and review. diagnosis of patients in the hospital with heart disease, supporting a number of special-project beds throughout the year, permitting intensive study of former and current patients. and the development of **new apparatus and new diagnostic techniques.**

Also included are psychiatric and neurological testing of patients with congenital heart disease and the study of the growth and development of patients both before and after operations on the heart.

SANTA CLARA

Dr. Robert L. Dennis, San Jose, has been elected president of the Santa Clara County Medical Society for 1962. He succeeds Dr. Clyde L. Boice of Palo Alto.

GENERAL

Joining together to do what none of them could accomplish alone, three neighboring towns in the Pomona Valley of Southern California have formed an authority that qualified them to provide **community mental health services** under the Short-Doyle Act. A cooperative venture of the cities of La Verne, Claremont and Pomona, the Tri-City Mental Health Authority has begun outpatient diagnostic, treatment and educational services as functions for which it can be reimbursed from state funds.

The city council of the City of Pomona was designated by the three participating cities to serve as the governing body of the authority. The governing body and the mental health director of the authority receive advisory services from a seven-man Mental Health Advisory Board, consisting of a physician and a city councilman from each of the three cities, and a judge of the superior court.

The authority's **financial and personnel policies** are handled through the established administrative agencies of the City of Pomona, and the employees of the authority are considered employees of the City of Pomona for purposes of payroll, sick leave and retirement.

In order to insure sustained support and guidance on legislative and administrative matters, the assistant administrative officer of the City of Pomona was assigned the responsibility for continuity, coordination and presentation of the authority proposals through legislative and administrative procedures. Approximately one-tenth of his time and his salary were allocated for this purpose, and the costs were treated as a charge against the budget of the authority.

The authority represents **a unique movement** in the field of community mental health services:

1. It is the first instance of a group of cities joining to create a mental health authority designed to serve the mental health needs of the group.

2. The program is a new addition to local mental health services rather than an expansion or reorganization of established services.

3. A number of unique features were introduced in the joint powers agreement between the three towns and in the administrative procedure of the new community agency.

Of the 19 governing bodies which were participating in Short-Doyle programs on July 1, 1961, only three represented cities, two of them located in the San Francisco Bay area. Thus, the Tri-City Mental Health Authority is **the only city-based mental health authority in Southern California.**

The creation and operation of the Tri-City Mental Health Authority has **aroused state-wide interest.** A number of communities that are too small individually to establish Short-Doyle programs have made field trips to the authority offices for the purpose of securing copies of the joint powers agreement under which the authority was formed.

* * *

The 11th annual convention of The **Pacific Coast Fertility Society** will be held at The Mountain Shadows Hotel, Scottsdale, Arizona, October 4 to 7, 1962.

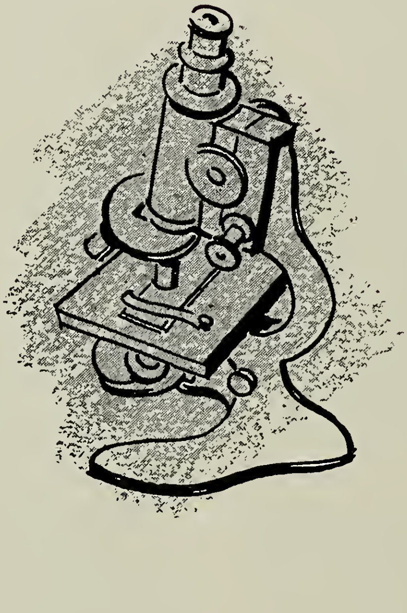
* * *

To stimulate interest in the **accuracy of hemoglobin measurements,** the College of American Pathologists' Standards Committee has announced a National Hemoglobin Survey available to all physicians and hospitals. In making the announcement the college noted that inaccurately calibrated hemoglobin photometers may give evidence of need for blood transfusions when actually supplemental blood is not required. Also, accurate diagnosis and treatment of hematologic disorders depend upon reliable hemoglobin measurements. Therefore, photoelectric photometers used for hemoglobin measurements should be frequently calibrated with a stable hemoglobin standard, the college said.

Physicians wishing to participate in this hemoglobin survey may do so by sending $10 to the Standards Committee, College of American Pathologists, Prudential Plaza, Chicago 1.

* * *

A new booklet, **Diagnostic Standards and Classification of Tuberculosis,** is being made available to physicians by the National Tuberculosis Association. Copies may be obtained by direct inquiry to the local chapters of the Association.



Letters to the Editor...

In the November 1961 issue of California Medicine (Vol. 95, p. 333) in the information section, the California Academy of General Practice presents a summary of its objectives and development.

All California physicians should be interested in and enlightened by the information contained therein. Surgeons, particularly Fellows of the American College of Surgeons, will be especially interested in the section entitled "Attitudes Toward Surgical Privileges" in part, at least, because the attitude of the California Academy of General Practice is not as clearly spelled out as it might be, in part because of stated disagreement with the college's methods. It is understandable that the subject matter involved is too extensive for complete review in this article, but the matter is of sufficient importance and timeliness to warrant greater elaboration.

It is encouraging to note that the academy agrees with the college that there is room for improving surgical care. The academy disagrees with the college's methods of bringing about improvement. The authors of the academy's statement do not attempt to show their interpretation of what these methods consist of, nor specifically where they disagree, or what methods they would substitute. Since the methods advocated by the college are a matter of record we believe they should be repeated in connection with this discussion. For a complete summary of the aims of the American College of Surgeons and the methods the college advocates for approaching these aims, readers might consult the *Bulletin* of the American College of Surgeons for November-December 1961, Vol. 46, p. 369 where Dr. Robert S. Myers, the executive assistant director of the college, sets forth this information. For the readers of California Medicine who may be confused by the statement of the California Academy of General Practice, a review of Dr. Myers' article might help to clarify some matters implied by that statement.

The American College of Surgeons believes that present-day surgery is of such complexity that it should be undertaken only by physicians of adequate surgical training, experience, and demonstrated competence, and the methods it advocates to promote this aim include the following:

1. Fostering of residency training programs to provide adequate surgical training. This includes cooperating with the American Medical Association and the American Board of Surgery in inspecting and approving such residency programs.

2. Persistently raising the standards and requirements of fellowship in the college so that the yardstick of surgical competence should continually improve.

3. Advocating that hospital staffs restrict surgical privileges to those physicians who have completed adequate training as evidenced by their being eligible for or certified by a surgical specialty board. The college further believes that this restriction should apply to all surgery done in the hospital, making no distinction as to "intermediate" or "minor" surgery; that it should apply to assistantship at surgery and to usual postoperative care.

The academy says it feels that "There are some very strong arguments for training the physician so that he will be able to provide his patients with both medical and surgical care for the more frequently seen conditions." This is a nebulous and misleading statement having at once both merit and absurdity. It implies that a physician having *adequate* training in *all* fields of medicine and surgery could best care for his patients. This is undoubtedly true but obviously impractical. In truth, however, a physician who undertakes special training in a *limited* field of medicine includes in his training attention to nonoperative as well as operative means of treating conditions which can be treated by both means. The mechanics of operative surgery are by no means the only tools the surgeon's training has provided for him; proper diagnosis, preparation for operation, postoperative care and a working knowledge of alternative methods of treatment are of equal or greater importance. It is precisely for this reason—the desire to render the best treatment to his patients—that physicians spend extra time and effort and concentrate on a limited field of practice. Any implication that surgeons can and do treat patients with operative measures only, whereas physicians with lesser training can and do treat them operatively or nonoperatively with greater chance of success will not be accepted by surgeons and cannot be logically supported.

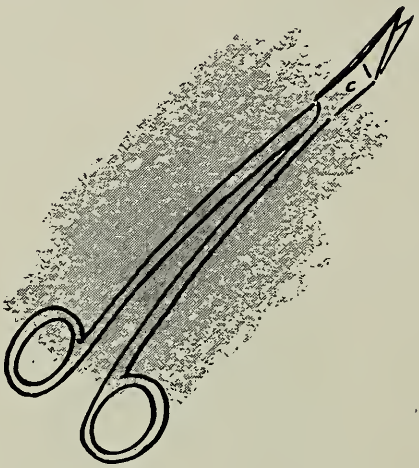
The academy's statements about board certification and its relations to the holder's integrity shows some lack of understanding of the meaning of such certification. Board certificates are comparable to the M.D. degree, designating the acquisition and demonstration of knowledge and training in addition to that of the holder of the M.D. degree, and like the latter, are not subject to removal once properly granted. The legal license to practice medicine can be withdrawn, however, and in this sense fellowship in the American College of Surgeons is comparable since it can be and is withheld or withdrawn, even from board diplomates, for reasons of lack of integrity or moral fiber.

The academy's statement implies that surgeons are not bound by the same standards and supervision as other members of hospital staffs, both with respect to their ability and their ethics. It is doubtful if this is true in good hospitals. The implication that it is, and is so because of the "methods" of the American College of Surgeons, can also not be acceptable to college fellows. The standards expected of its members by the American College of Surgeons are higher than those of hospital staff members generally, both professionally and ethically. Furthermore, the "methods" of the college have long included efforts to encourage good hospitals to raise their own standards and police their own surgical staffs in order to improve the quality of surgical care to their patients. No one could claim that its efforts to do so have been uniformly successful, but it is erroneous to say that its methods are directed toward or result in inferior patient care.

It is unfortunate that controversy of this nature should be necessary since it should be unquestioned that all physicians, fellows of the American College of Surgeons and members of the California Academy of General Practice alike, are interested in and working toward improvements in patient care. If the academy sincerely feels that its methods of approach to the problem are superior to those of the American College of Surgeons, we feel the profession deserves a clearer demonstration that the academy understands the objectives of the college and its methods of working toward these aims, and a more lucid and complete presentation of the methods it would substitute. Those responsible for the adoption of measures designed to bring about improved patient care can discharge this responsibility only if they have the alternatives clearly in mind.

WILLIAM H. STEPHENSON, M.D.
ERNEST T. SMITH, M.D.

Santa Barbara



THE PHYSICIAN'S *Bookshelf*

HEREDITY IN OPHTHALMOLOGY—Jules François, Professor of Ophthalmology at the University of Ghent, Belgium. Translated from the French Edition entitled *L'Hérédité en ophtalmologie.* The C. V. Mosby Company, 3207 Washington Blvd., St. Louis, 1961. 731 pages, with 629 figures including 6 in color, $23.00.

Interest in genetics is relatively new in the United States, perhaps, in part, as the result of being a new country where the population shifts a good deal. Because of this, long family trees are rarely available. However, in recent years the genetics of ophthalmology has interested a number of ophthalmologists. For the serious student of heredity in ophthalmology, a good standard textbook has not been available.

"The Heredity in Ophthalmology" by François, which is a translation of the book as published in French in 1958, answers this need. The book has been written in the thorough, painstaking and exhaustive manner that characterizes all of François' publications.

The importance of genetics in ophthalmology is brought out in the preface in which François states: "To believe genetics is a barren science is a grave error." He points out that in 1944 congenital and hereditary abnormalities alone were responsible for more than two-thirds of the cases of blindness in the schools for the blind in England.

The book, comprised of 43 chapters, is divided into four major parts. In the first part, on general genetics, the elementary concepts of general science are reviewed. This includes the different types of heredity (dominant, recessive and sex-linked inheritance); chromosomal abnormalities, mutation; variations in the phenotypic manifestations of a gene; dimerism and polymerism; polyallelism and environment. The discussion of the elements of statistics and biometry conclude this part.

The second part deals with genetics in ophthalmology. The importance of heredity in ophthalmology is brought out by the fact that there are at least 246 pathological genes known which express themselves in ocular abnormalities, either exclusively or associated with other abnormalities. The chapter on the preventative management of hereditary ocular diseases before and after marriage is of special practical interest.

Part three consists of a discussion of the hereditary diseases involving all the various structures of the eye. This part is comprised of 18 chapters.

The fourth and final part of the book is devoted to those hereditary general diseases that show ocular manifestations. These include metabolic disturbances, affections of the central nervous system; skeletal affections; skin diseases; diseases of the blood; diseases of the endocrine glands and arterial hypertension.

The book is a classic and should be in the hands of every ophthalmologist and all serious students of genetics.

The format is outstanding even for a Mosby book. The paper is excellent as is also the typography. The volume contains 629 figures, including diagrams, reproductions of drawings, photographs, and 6 colored plates, all of outstanding quality. There is an author index of 19 pages. The subject index could perhaps have been a little more detailed.

The book is very highly recommended.

Frederick C. Cordes, M.D.

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CORONARY VASODILATORS—R. Charlier, Head of the Pharmacology Department, Labaz Laboratories, Brussels. (International Series of Monographs on Pure and Applied Biology. Division: Modern Trends in Physiological Sciences, Volume 10.) Pergamon Press Inc., 122 East 55th Street, New York 22, N.Y., 1961. 208 pages, $8.50.

This is a comprehensive, authoritative review of the clinical pharmacology of a large number of coronary vasodilators. The author assumes that angina pectoris is due to myocardial ischemia from functional insufficiency of the coronary circulation and that therapeutic agents, to be effective, must increase the arterial blood flow in the myocardium by dilating the coronary arteries. He comments that evidence of the long-term beneficial value upon the lesions in atherosclerosis by the reduction of serum cholesterol has not been proved, and that therefore the main place in the treatment of the anginal syndrome must rest with coronary vasodilators.

The author begins by discussing the physiological factors determining coronary flow, and discusses in detail a wide variety of experimental methods designed to measure the changes in lumen in the coronaries. In this section the author includes a great deal of European work which may not be known to the American reader, and this will be of considerable interest. He illustrates how conflicting the data are, and he presents the pros and cons of each method in an unbiased manner.

The major part of the book is concerned with the pharmacological and clinical features of many drugs that either directly or indirectly are said to have vasodilating properties. This section is very comprehensive, including most of the world's literature, and will be of considerable benefit to the general physician who is faced with the use of these drugs. The author indicates the difficulty of evaluating the clinical benefit from the drugs, the need for double-blind techniques, and discusses his own personal experience and views. Although he believes that observations on a drug over a long period of time on many patients are necessary before a sound conclusion of benefit can be made, he favors Greiner's subjective procedure in combination with Riseman's objective method of assessing exercise tolerance under standard conditions.

The broad coverage, the unbiased treatment, the many illustrations and the extensive bibliography (908 references) indicate that this book will be of considerable interest to clinicians as well as to pharmacologists.

Maurice Sokolow, M.D.

SCIENTIFIC ASPECTS OF NEUROLOGY—Leeds Neurological Sciences Colloquium, 1959-60. Edited by Hugh Garland, T.D., M.D., F.R.C.P., Neurologist, The General Infirmary at Leeds; Consultant Neurologist, Leeds Regional Hospital Board; Senior Clinical Lecturer in Neurology, University of Leeds. The Williams & Wilkins Company, Baltimore 2, Maryland, exclusive U. S. agents, 1961. 264 pages, $9.75.

The title of this book may possibly prove misleading, if from it one might expect an organized approach to basic considerations in neurology. Aspects of Neurology would be a more accurate title; and these aspects are, on the whole, unrelated and when related are not placed in sequence. Thus, Chapter 2 deals with "The Pathology and Pathogenesis of Multiple Sclerosis," and Chapter 18 later, after the book has dealt with "The Diagnostic Value of Motorpoint Muscle Biopsy," "Calgarine Cortex and Cerebral Organization," "Asymmetry of Cerebral Hemisphere Function," "The Applied Physiology of Sleep," "The Pharmacology of the Reticular Activating System," "Cerebral Lipidoses," "The Electroencephalographic Diagnosis of Epileptogenic Focus," "Broca's Contribution to Aphasia Reviewed a Century Later," "Some Observations on the Facilitation or Arrest of Epileptic Seizures," "Some Observations on Trigeminal Neuralgia," "Writer's Cramp and the Conditioned Reflex," "Radiology of Strokes," "The Treatment of Posterior Communicating Aneurysms," "The Syndromes of Basilar Insufficiency," and "Leukoencephalitis," disseminated sclerosis is again considered, "Disseminated Sclerosis—Today's Great Imitator."

The 20 chapters are by separate authors, each of distinction, and the presentation is invariably excellent, though too brief on the whole to be of reference value, and usually not recent in content. The book is a collection of essays, initially presented in Leeds as a series of postgraduate lectures, and the subjects represent author interest—hence the scatter of topics without apparent scheme. Herein lies the value and the defect of such a collection.

The book is avowedly aimed at the nonneurological world; yet its first chapter, an elegant discussion of "The Problem of the Origin of the Pyramidal Tract" can, despite its excellence, be of interest only to the dedicated few.

This book cannot replace reference texts nor the need to read recent literature. It should be read by neurological residents, but the material is too scattered to form the diet of the average medical practitioner, yet the enterprising reader will scarcely fail to find some aspect of interest.

Donald Macrae, M.D.

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CLINICAL HEMATOLOGY—Fifth Edition, Thoroughly Revised—Maxwell M. Wintrobe, M.D., Ph.D., D.Sc. (Hon.), Professor and Head, Department of Medicine and Director, Laboratory for the Study of Hereditary and Metabolic Disorders, University of Utah, College of Medicine, Salt Lake City, Utah. Lea & Febiger, Washington Square, Philadelphia 6, Pa., 1961. 1186 pages, $18.50.

It is again a privilege to review a new edition (fifth—since 1942) of this medical classic. There has been more change of content from previous editions than before, as well as a change of format—larger pages and print, with sections set off better for easier reference. Doctor Wintrobe has performed a monumental task in reviewing the ever increasing hematologic literature. His clinical, laboratory and research background has permitted him to digest this material, which he presents in a comprehensive but readable manner. Recent developments in the hemoglobinopathies, erythrokinetics, coagulation disorders, leukemia, etc., are included. The bibliography is extensive with references into 1961.

There are many illustrations, generally excellent, although some of the new color plates might have been better left out. In Plate V, it is difficult to tell the megaloblasts (Figure A) from the normoblasts (Figure D). No good megaloblasts are illustrated, a plate of pernicious anemia from the previous edition having been deleted. One wonders why the spleen and splenic function continue in the same section between the lymphomas and multiple myeloma. Also why agranulocytosis and infectious mononucleosis made up a section where they have in common only a sore throat.

This book continues to be the best of all hematologic texts and should be available to all whose work brings them in contact with the blood. This includes medical students, practitioners of all specialties, pathologists, laboratory workers as well as hematologists.

William F. Luttgens, M.D.

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CIBA FOUNDATION STUDY GROUP No. 6—Metabolic Effects of Adrenal Hormones, in Honour of Prof. G. W. Thorn—G. E. W. Wolstenholme, O.B.E., M.A., M.R.C.P., and Maeve O'Connor, B.A., editors for the Ciba Foundation. Little, Brown & Company, Publishers, 34 Beacon Street, Boston 6, 1960. 109 pages, $2.50.

This is a collection of five papers, together with opening remarks by the chairman, Professor F. G. Young of University of Cambridge and printed extensive discussions, which comprised a one-day symposium, honoring Professor George W. Thorn of Harvard University during a visit to England. In his three pages of opening remarks Professor Young gave an unusual and revealing review of the history of research on the adrenal hormones. The initial paper on "Actions of Cortisol and Related Compounds on Carbohydrate and Protein Metabolism" was read by Professor C. N. H. Long of Yale University. This was followed by "The Role of Adrenal Steroids in the Regulation of Hepatic Metabolism" by Dr. James Ashmore of Indiana University Medical Center; "The Adrenal Gland and In Vitro Protein Synthesis" by Dr. A. Korner of University of Cambridge; "Action of Cortisol on Trapping of Amino Acids by the Liver" by H. N. Christensen of the University of Michigan and "Effect of Adrenal Hormones Upon Adipose Tissue" by Albert E. Renold of Harvard University. Each paper is followed by several pages of discussion, and in addition there are twenty pages of general discussion at the end of the symposium. As so often occurs, some of the most interesting information is given in these discussions. All the twenty-seven participants are experts in their fields and the little book of 109 pages is packed with important data and concepts which should become familiar to not only the research specialists but also to practicing physicians who deal with adrenal cortical hormones.

Clinton H. Thienes, M.D.

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THE ADRENAL CORTEX—By 19 Authors—Edited by Henry D. Moon, M.D., Chairman and Professor of Pathology, University of California, San Francisco Medical Center. Paul B. Hoeber, Inc., Medical Division of Harper & Brothers, 49 East 33rd Street, New York 16, N. Y., 1961. 315 pages, $10.50.

This is a very well written monograph. The 19 contributors present in a concise and logical manner, data dealing with the anatomy (including electron microscopy), pathology, physiology, biochemistry, and metabolism of the adrenal cortex. In addition, the various clinical disorders associated with disturbances of the adrenal cortex are discussed in the light of the more recent developments. This monograph will serve as an excellent source of reference. It will be of value to the internist and the endocrinologist, as well as to the general practitioner and medical students.

John S. Lawrence, M.D.

TREATMENT OF EMOTIONAL PROBLEMS IN OFFICE PRACTICE—Frank F. Tallman, M.D., Professor of Psychiatry, School of Medicine, University of California Medical Center, Los Angeles. The Blakiston Division, McGraw-Hill Book Company, Inc., 330 West 42nd Street, New York 36, N. Y., 1961. 426 pages, $11.00.

This book presents selected material of a postgraduate teaching seminar of several days' duration. It is one of a series of books under the general title, "University of California Medical Extension Series, Los Angeles." Dr. Frank F. Tallman has carefully summarized this material in a form to make it most simple and practical for the general practitioner to use as a guide in the understanding and treatment of psychosomatic conditions in office practice. The author states, "The psychological point of view presented here is Freudian in its parentage, and I am ever grateful to its originator."

The first seven chapters are entitled "Personality Growth and Function" and follow the development of personality from early infancy to old age. The second section of three chapters gives some historical material, something of the neurophysiology of emotions and a brief discussion of anxiety. Following this is a series of case presentations of various psychoneurotic reactions and a presentation of psychosomatic theory.

The last and longest section of the book is titled "Diagnosis and Treatment Methods." This material is presented in a very interesting and practical fashion. Examples are given of the initial interviews with patients and right and wrong ways of carrying them out are described. A chapter of 123 pages is titled "Treatment—Office Psychotherapy." The same method of approach is continued. There is a certain amount of theory, then illustrations of right and wrong ways to approach the patient. Attention is paid to the use of specific words and phrases and an explanation is given as to why the use of certain words and phrases is good and the use of other words and phrases bad.

The Appendix of 65 pages gives further case records together with a general discussion of the material by the instructor and the doctors of the group.

This is an excellent book for the general practitioner who has to deal with many neurotic and psychosomatic conditions and who wishes a good reference book. Dr. Tallman has done an outstanding job in putting this volume together. It contains much valuable and interesting material.

Karl M. Bowman, M.D.

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MANAGEMENT OF HYPERTENSIVE DISEASES—Joseph C. Edwards, A.B., M.D., F.A.C.P., F.A.C.C., Assistant Professor of Clinical Medicine, Cardiovascular Consultant to Division of Gerontology, and Consultant in the Hypertension and the Cardiac Clinics, Washington University School of Medicine and Barnes Hospital, St. Louis, Mo. The C. V. Mosby Co., 3207 Washington Blvd., St. Louis 3, Missouri, 1960. 439 pages, $15.00.

This new book is by an experienced clinician who attempts to guide the physician in the practical management of the patient with hypertensive disease. Approximately a third to a half of the book is devoted to general problems of the diagnosis of hypertension and its natural history, as well as the factors thought to be etiologic.

The book contains a mine of information and the author has obviously combined both his personal experience and a comprehensive review of the literature since he refers to 1,622 published references. The main criticism of this is that the author used the style characterized by a series of isolated statements rather than a cohesive general point of view with adequate documentation. In many parts the book reads as a review article without sufficient critical comment. The organization could be improved greatly because it is repetitive and because much confusion is caused by the juxtaposition of positive and negative statements. For example on page 93 the statement is made: "It is generally agreed that blood pressure alone is not adequate for prognosis or diagnosis," yet on page 94 he states, "In a group of 166 patients observed for a period of seven years, 48 per cent of those with systolic pressure below 200 mg. of mercury survived while only 11 per cent of those with systolic pressure of 200 mg. of mercury survived." The reference quoted for the first statement is obviously different than the reference quoted for the second and indicates the difficulty the reader has in getting a coherent picture of the author's point of view. Further, on page 95, with another reference the author states: "If all patients with higher diastolic pressures were grouped together with those having lower diastolic pressure levels, the average patient with the higher diastolic level did not do as well."

In the section on prognosis, the author combines retinopathies of Grades II, III and IV, rather than indicating the separate significance of each. Similarly he discusses hypertension and arteriosclerosis together and does not adequately distinguish between them.

The sections on the details of therapy and the specific uses of drugs is complete and up to date and the use of drugs is illustrated with numerous case reports. The section on hypertension associated with pregnancy is particularly clear and detailed. The account of curable renal hypertension is complete but inconsistent and again plagued by telegraphic style of conflicting points of view by different authors, rather than the author's presentation of a unified concept.

In general the book can be recommended for its completeness, up-to-date references and broad coverage. It is to be hoped that in the next edition more careful editorial review will help the organization and text so as to represent a monograph rather than isolated conflicting statements from the literature.

The chapter on hypertension associated with pregnancy written in collaboration with Seymour Monat should stand, in the reviewer's opinion, as a model for chapters in a future edition.

Maurice Sokolow, M.D.

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PATHOLOGY OF TUMORS—Third Edition—R. A. Willis, D.Sc., M.D., F.R.C.P., Honorary Research Fellow, University of Leeds, Consulting Pathologist to the Imperial Cancer Research Fund, London, Formerly Professor of Pathology, Royal College of Surgeons, and University of Leeds. Butterworth, Inc., 7235 Wisconsin Avenue, Washington 14, D. C., 1960. 1,002 pages of text, 56 pages of index, and 500 illustrations, $21.00.

In this new edition of Willis' well known book there have been several changes such as incorporation of additional material relative to the experimental production of tumors, but to a large extent the book has retained the form and basic content of the previous editions. The author has frequently drawn upon his wide experience in tumor pathology, and has intentionally emphasized his own views upon controversial matters. Other points of view are thoroughly represented, however, in the extensive bibliography that suggests further reading on practically any aspect of tumor pathology.

The illustrations are largely photomicrographs which are well chosen mostly from the author's own cases. They are technically good and provide an adequate illustration of basic tumor types. They do not attempt to picture the great variety of appearances of tumors, although this is discussed to some extent in the text.

The book is concise and well organized. It should be of value to any student of oncology.

Alvin J. Cox, M.D.

CIBA FOUNDATION SYMPOSIUM — The Nature of Sleep—G. E. W. Westenholme, O.B.E., M.A., M.B., M.R. C.P., and Maeve O'Connor, B.A., editors for the Ciba Foundation. Little, Brown & Company, 34 Beacon Street, Boston, Massachusetts, 1961. 416 pages, $10.00.

This book is the product of a Ciba Foundation Symposium. It consists of 18 formal papers, chiefly electrophysiological, with provocative discoveries by a distinguished group under the chairmanship of Sir John Eccles.

The study is directed toward an understanding of the modes of action of neurones in the cortex and brain stem, and their integration and their role in this complex physiological state, sleep. There are also three papers on Hibernation and Sleep, Sleep Patterns on Polar Expeditions, and the Nature of Dreaming, which add a clinical flavor.

The book is a great contribution, interesting in content and approach, and more important in revealing the threshold to avenues of research which promise significant advances of knowledge.

I can think of no discerning physician who will not be rewarded by reading parts of this book—no matter along which lines his interest may be, be it physiological or behavioral, there is matter of interest. Considering how much of our time is spent in the state of sleep, it is well that we should all know more about its nature, and more about the present paths being explored toward its further understanding. Perhaps one may have personally enjoyed the book too much to offer a critical appraisal of its value to all readers; but one does not hesitate to say that anyone who undertakes the small pains of browsing through it, will inevitably read more.

Donald Macrae, M.D.

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HUMAN ADRENAL GLAND—Louis J. Soffer, M.D., F.A.C.P., Attending Physician and Head of Endocrinology, The Mount Sinai Hospital, New York City; Ralph I. Dorfman, Ph.D., Director of Laboratories, Worcester Foundation for Experimental Biology, Shrewsbury, Mass.; and J. Lester Gabrilove, M.D., F.A.C.P., Associate Attending Physician, The Mount Sinai Hospital, New York City. Lea & Febiger, Washington Square, Philadelphia 6, Pa., 1961. 591 pages, $18.50.

I know of no authorities on clinical endocrinology I consider more sound than Doctors Soffer and Gabrilove, and no one knows more about steroid biochemistry than Doctor Dorfman. All are masters of clear presentation. These three have combined their special talents to write the most useful, complete, reliable, up-to-date account of modern knowledge of the adrenal gland available. I am amazed that they have been able to include in a book published in 1961 such recent items as the latest important corticosteroids; a critical evaluation of the clinical usefulness of *o*, *p*', DDD, triparanol (Mer-29), and methapyropone (SU-4885); the formulas of the many corticotrophic and melanocyte-stimulating peptides, including Hofmann's synthetic, complete ACTH which contains only 23 amino acid residues; and even the latest evidence that the renal juxtaglomerular apparatus stimulates aldosterone elaboration by its own secretion of angiotensin. On the other hand, possibly deliberately, they have omitted the evidence that the adrenal cortex has a special phosphorylase system from which energy for steroid biosynthesis is derived. The busy physician may wish to start his reading with Chapter 4, which gives him an adequate background in the chemistry and metabolism of the hormones, or, if he has more time, will enjoy reading the details of these processes in Chapters 2 and 3.

Discussions of the complicated adrenal cortical and medullary physiology are detailed and clear. The authors do not fall into the all too prevalent pit of making complex matters simple, but rather clarify where the less exact might mislead by simplifying. The steroid nomenclature throughout is sensible and readily understandable. Most corticoids are named as derivatives of cortisol (hydrocortisone) or of prednisone. I wonder why this nomenclature is not used universally instead of the cumbersome terms based on chemical relations to cortisone or corticosterone.

At the end of each section the authors pause for a brief, clear summary, including a statement of the areas of ignorance and controversy. These are particularly valuable in the clinical sections, starting with the nonendocrine uses of corticoids and corticotrophin. The only important indication I missed is the relatively rare, but lifesaving use of these agents in vitamin D poisoning and most other hypercalcemias. The authors are exact enough to qualify the dreadful term "side effects" in quotation marks in the text, but it appears in unmitigated form as the title of a table listing these unwanted physiological actions of adrenal corticoids.

References are encyclopedic and not restricted to those in the English language. The sections on Addison's disease and Cushing's syndrome are superb. The difficult matter of distinguishing the type of Cushing's syndrome due to adrenal cortical tumor from that caused by hyperplasia is dealt with thoroughly.

In the section on the "adrenogenital syndrome" the reader receives as a dividend a brief but comprehensive dissertation on current concepts of gonadal differentiation and the significance of chromatin and chromosome patterns. Aldosteronism is also thoroughly covered. The sections on disorders of adrenal medullary function properly receive less space, but are excellent, complete, current and clinically oriented.

I was particularly gratified to read that these authorities have been able to cure most of their patients with Cushing's disease (bilateral adrenal cortical hyperplasia) without producing Addison's disease, and without favoring the growth of pituitary tumors. This section should be read carefully by any physician contemplating adrenalectomy for his patients with Cushing's disease. The fact that pituitary irradiation must be given in adequate doses (which are spelled out) and usually takes more than six months to produce remission probably explains the failures of this treatment in the hands of less experienced investigators. The whole subject of pituitary-adrenal cortical relations is carefully documented, including its history, passing through the period of disenchantment with the pituitary, through the full circle to the current confirmations of Cushing's original hypothesis that Cushing's disease either originates in or is mediated by pituitary basophils.

If the authors merit an "A," the publishers deserve something less. In their favor, the type is clear and printed on excellent paper which is thin enough so that almost 600 pages take up little more than an inch of shelf space. When the second edition appears, I hope they will do a better job of proofreading and indexing. I counted over a dozen typographical errors in 100 pages, and noted one illustration printed upside down! The index bothers me particularly. For example, in looking up the well-known actions of adrenocortical steroids on the central nervous system, I found none indexed under "Central nervous system," "Nervous system," "Convulsions" or "Psychosis." Yet this subject is thoroughly covered in the appropriate sections, and particularly its clinical manifestations.

This book can be unqualifiedly recommended for students and physicians who practice any branch of medicine in which corticosteroids are used or in which patients with disorders of adrenal cortical or medullary function may be seen. It is by far the best book on the subject.

Gilbert S. Gordan, M.D., Ph.D.

SURGERY OF MITRAL STENOSIS—Modern Surgical Monographs 4—Robert P. Glover, M.D., M.S. (Surg.), F.A.C.S., F.A.C.C., Director of Surgery and Chief of the Thoracic and Cardiovascular Surgical Service, Presbyterian Hospital; and Julio C. Davila, M.D., F.A.C.S., F.A.C.C., Research Director, Cardiovascular Research Laboratory, and Associate Thoracic Surgeon, Presbyterian. Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, N.Y., 1961. 219 pages, $9.50.

Dr. Glover's monograph embraces the field of mitral valve surgery from its birth in the late forties until the advent of open heart surgery. The historical background is reviewed and a detailed description is given of the anatomy and pathology of the mitral valve, this section being beautifully illustrated with line diagrams and very instructive photographs. A short section on the interpretation of hemodynamic changes in mitral stenosis followed by a comprehensive chapter on the selection of patients for surgery cover the clinical picture. Dr. Glover gives a detailed description of surgical technique favoring commissurotomy with either the finger or the knife. He found that 25 per cent of valves could be satisfactorily split with the finger alone and a further 25 per cent would respond to the knife only. The remaining 50 per cent required both finger and knife commissurotomy. The reviewer was surprised to see one page only devoted to the surgery of mitral insufficiency with scant reference to recent open heart procedures.

Many cardiac surgeons will not agree with his view that retrograde mitral valvotomy using a dilator is very rarely necessary. General experience is that only with the application of this highly efficient maneuver can a good commissurotomy be expected routinely, especially in recurrent cases. However, the long term results presented of the first 251 cases embracing all grades of severity which were operated on by Dr. Glover are good judged by any standards. The review of this group is between 7 and 11 years postoperatively. The operative mortality was 5.2 per cent and the late mortality 19.1 per cent. Of the surviving 75.7 per cent (189), 40 per cent (99), of the original 251 were in excellent health and 29 per cent (73) were improved. Thus in a total of 172, almost 70 per cent of the original 251, surgery conferred long-term benefit.

Dr. Glover does not favor head vessel occlusion during commissurotomy, believing that the risk of cerebral embolism is not minimized by this procedure and further concludes that this procedure is possibly hazardous. His own rate of 5 per cent (half of which were fatal) in his first 1,000 valvotomies is certainly as low as that attained by others practicing vessel occlusion.

Although this volume is rapidly becoming of mainly historic interest, it deserves a place in the cardiac library. It concerns the period of closed mitral surgery as seen by one of the pioneers, and it will take its place in the literature of this field.

* * *

CARDIOVASCULAR SURGERY—A Manual for Nurses—By members of the Surgical Staff and Members of the Nursing Service Staff, The Methodist Hospital, Texas Medical Center, Houston. George H. Peddie, M.D., Surgical Staff, and Frances E. Brush, R.N., Director of Nursing, both of the Methodist Hospital, Houston, Texas, editors. G. P. Putnam's Sons, 210 Madison Ave., New York, 1961. 170 pages, $2.75.

An attempt has been made in a book of 170 pages to present a comprehensive account of the physiology, pathology, diagnosis and treatment of congenital and acquired cardiovascular disorders, including chapters on anesthesia, preoperative and postoperative management.

There is considerable difficulty inherent in the preparation of such a volume. On the one hand pedantic and controversial discussion might lead to confusion and on the other, over-simplification is unsuitable for personnel whose understanding of this subject is essential. The authors have successfully steered between these two extremes and have produced an attractively printed, well-illustrated handbook which should prove of benefit to the nurse in training and to the operating room staff.

Apart from a few inaccuracies such as, "the diastolic pressure represents the constant tone of the heart" (page 6), and the old chestnut, "division and ligation of the patent ductus" (page 28), and again, "the prothrombin time is less than 20 minutes" (page 49), a fair standard of accuracy is maintained. The sections which will prove most useful to those for whom the book is intended are those on preoperative and postoperative care, the section on tracheostomy deserving special mention. However, in this connection, the reviewer would prefer a supply of humidified air rather than a possibly dangerous moist sponge placed over the tracheostomy.

The next edition of this excellent little book would benefit from greater accent being placed on nursing management, leaving the study of basic physiology and pathology to more comprehensive manuals.

GERALD KEEN, M.S.

* * *

ESSENTIAL PATHOLOGY—Roger D. Baker, M.D., Professor of Pathology, Duke University School of Medicine; Chief of Laboratory Service, Veterans Administration Hospital, Durham, North Carolina. The Williams & Wilkins Company, Baltimore 2, Maryland, 1961. 638 pages, $9.50.

This book is considerably smaller than the usual textbook, yet it has relatively large type and is abundantly illustrated, so represents a pronounced condensation of material usually covered in textbooks of pathology. The presentation of "essentials" is, nevertheless, quite comprehensive. It has been achieved by omitting discussions of normal structure and function, and by minimizing discussions of published work, particularly if it represents controversial material. Instead there are references to general articles that expand upon the subjects of each chapter. The distribution of emphasis has been influenced by the relative importance of the various pathologic processes in medicine today. The result is a concise and conventional survey of disease based principally upon the appearance of lesions. It covers most types of morphologic change in disease and enumerates basic pathologic principles, so could serve well as a basis for a review of pathology.

ALVIN J. COX, M.D.

* * *

A MIRROR UP TO MEDICINE—A. C. Corcoran, M.D. With a Preface by Allan Nevins. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pennsylvania, 1961. 506 pages, $5.75.

This remarkable anthology, obviously the product of wide and thoughtful reading of world literature on the subject of doctors and of disease, covers a dazzling variety of writers from Hippocrates to Osler. The extracts are carefully selected and often prefaced by editorial comments which illuminate the subject in fascinating fashion. Beyond such a general statement the book is difficult to review, so wide and diffuse is the ground covered—one may note among the nonmedical writers who are quoted R. Bridges, Chaucer, Balzac, Thackeray, Dickens, Trollope, Sassoon, Pater and many others.

Turning the book over ond over, one continually finds new things; it makes a marvelous bedside companion and surely will stimulate every thinking doctor.

ARTHUR L. BLOOMFIELD, M.D.

THE MEDICINE SHOW—Some Plain Truths About Popular Remedies for Common Ailments—A Consumers Union Publication (by the editors of Consumer Reports). Simon and Schuster, publishers, 630 Fifth Avenue, Rockefeller Center, New York 20, N.Y., 1961. 250 pages, $1.50 paper, $3.95 cloth.

The colorful advertisements of the quack nostrums of grandfather's day are now mostly fond recollections, preserved in memorabilia of their own. However, our own modern scientific age has in no way eliminated the medical huckster: It has simply refined him while giving him greater opportunities. Everywhere we turn—from radio, newspaper, television, magazine to billboard—we are all but overwhelmed by the promises, the threats and the instructions being offered by today's "Medicine Men." Consumer's Union has become fascinated by today's mighty Medicine Show, has investigated its numerous aspects and presents its findings in a highly interesting and discriminating report.

Although this book is not intended primarily for the medical professon, it makes refreshing reading for the physician. It is necessarily concerned with many common ailments which are more annoying than dangerous—and with the multitude of popular and widely advertised "cures" for them. The authors of the Consumer's Union report have incorporated in it the thinking of many doctors, as well as consultants in related fields.

The reviewer finds it difficult to single out any one section over the others for particular commendation—but must note the good sense expressed in Chapter 7 on "Constipation and Laxatives," which debunks so many of the popularly presented myths on this subject. In their enthusiasm, the authors may at times have attacked the "brand" concept with greater zeal than necessary, but, on the whole, they have shown sound—though caustic—judgment.

We can recommend it to practitioners and their patients alike.

Edgar Wayburn, M.D.

* * *

A MANUAL OF CUTANEOUS MEDICINE—Donald M. Pillsbury, M.A., D.Sc. (Hon.), M.A., F.A.C.P., Professor and Chairman of Department of Dermatology, University of Pennsylvania School of Medicine; Director, Commission on Cutaneous Diseases, Armed Forces Epidemiological Board; President XII International Congress of Dermatology; Walter B. Shelley, M.D., Ph.D., F.A.C.P., Professor of Dermatology, University of Pennsylvania School of Medicine; National Consultant in Dermatology to the Surgeons General, U. S. Army and U. S. Air Force; and Albert M. Kligman, M.D., Ph.D., Professor of Dermatology, University of Pennsylvania School of Medicine; Professor of Dermatology, University of Pennsylvania Graduate School of Medicine. W. B. Saunders Company, Washington Square, Philadelphia, Pennsylvania, 1961. 430 pages, $9.50.

Appropriately titled, "A Manual of Cutaneous Medicine" is indeed a concise, accurate, up-to-date presentation of our knowledge of the cutaneous organ, its common disease processes and a rational approach to diagnosis and therapy. Avoiding bewildering eponyms and mystical Latin nomenclature, the authors discuss clearly and succinctly the fifty-odd dermatologic problems that comprise approximately 80 per cent of problems presented by patients with cutaneous complaints. This manual includes many pictures and illustrations used by the same authors in their textbook, *Dermatology* (Saunders, 1956); however, the text is new, not merely an outline of the larger text, and many of the photographs have not before been presented. The illustrations and pictures depict the most helpful rather than the most extreme characteristics of the diseases discussed, so what one sees in the pictures is similar to what one sees in his practice rather than in a museum.

The first two chapters present the structure, physiology and biochemistry of the skin, providing the reader with a clear idea of these relatively unknown aspects of normal skin before undertaking the study of the abnormal. Anatomy, keratinization, pigmentation, the formation and cycles of hair, the structure and function of the glands of the skin and the formation of nail are among the subjects discussed in the early chapters. There is also a short but helpful presentation of the few basic pathological reaction patterns of the various cellular components of the skin.

The chapters on dermatologic diagnosis clearly and logically explain the principles of formulating a diagnosis of cutaneous disease. They define and illustrate the primary and secondary lesions of the skin and point out how recognition of these lesions channels one's thinking toward certain diseases. Helpful diagrams stress the importance of the distribution of lesions in various disorders providing further clues in diagnosis. The essentials of the dermatologic history and further diagnostic procedures are then discussed so that having mastered this chapter, one has a systematic approach with which to attack the majority of dermatologic problems.

Subsequent chapters are devoted to the major clinical categories of cutaneous disease, each chapter discussing the different related entities comprising each category. The significant clinical and differential features are discussed, as well as present-day therapy. The modes of therapy discussed are those which time and experience have shown to be the most reliable, effective and least hazardous. Specifically notable topics include: The diagnosis and treatment of infantile eczema; the uses of Griseofulvin in superficial fungal infections; the morphology of various drug eruptions; and a formulary including the indications and uses of antibiotics, antihistamines and the corticosteroids.

This book, in the reviewer's opinion, will be of great benefit to students, house officers, and nondermatologist physicians who deal with cutaneous disease in their practices. Its concise, accurate presentation of the major classes of skin disease and the entities comprising these classes will provide the basic knowledge and diagnostic approach with which to solve and manage the unknown "rash."

Cleve B. Baker, M.D.

* * *

HYPERTENSION—A Mount Sinai Hospital Monograph—Edited by Milton Mendlowitz, M.D., Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N.Y., 1961. 156 pages, $6.50.

The field of hypertensive diseases has changed with such rapidity that the Mount Sinai Hospital has presented a symposium, bringing the subject up to date, in October, 1960. Ten chapters of authoritative nature are presented on such aspects as the etiology, pathology, clinical evaluation, drug treatment, surgical treatment, hypertension in childhood, management of hypertension in the pregnant woman, as well as a discussion of renal disease with associated hypertension and the diagnosis of pheochromocytoma. Each of the chapters presents an excellent modern review and a first-class bibliography. The new work on aldosteronism is presented by Laragh, and a discussion of the diagnosis of pheochromocytoma by determination of the metabolites of the catechols is timely indeed.

The one area which seems to the reviewer to be covered rather scantily is that of the details of drug treatment, although the authors present evidence which tends to support the efficacy of early treatment of primary hypertension.

The monograph can be recommended as a good basic review of the present status of the etiology and pathogenesis of hypertension, with a complete bibliography at the end of each chapter which permits the reader to extend his information.

Maurice Sokolow, M.D.

'THORAZINE' PRESCRIBING INFORMATION

Because of its pronounced calming effect, 'Thorazine' is an outstanding agent for patients with mental and emotional disturbances, particularly those with symptoms of agitation and hyperactivity. In severe cases, initial use of intramuscular administration may be desirable to control symptoms promptly.

Before prescribing 'Thorazine' for other indications than those given below, the physician should be familiar with the dosage, side effects, cautions and contraindications for such uses. This information is available in the *Thorazine® Reference Manual* and *Physicians' Desk Reference,* and from your SK&F representative or your pharmacist.

ADMINISTRATION AND DOSAGE

Dosage should always be adjusted to the response of the individual and according to the severity of the condition. It is important to increase dosage until symptoms are controlled or side effects become troublesome. In emaciated or senile patients, dosage increases should be made more gradually than in other patients.

ADULT DOSAGE

Mental and Emotional Disturbances (e.g., agitation, excitement, or anxiety)—*Starting oral dosage* is 10 mg. t.i.d. or q.i.d., or 25 mg. b.i.d. or t.i.d. After a day or two, dosage may be increased by increments of 20 mg. to 50 mg. daily, at semiweekly intervals, until maximum clinical response is achieved. Continue dosage at this level for at least two weeks; then it can usually be reduced to a maintenance level. A daily dosage of 200 mg. is "average," but some patients may require substantially higher dosages. Discharged mental patients, for example, may require daily dosages as high as 800 mg. *Starting intramuscular dose* is 25 mg. (1 cc.). If necessary, and if no hypotension occurs, repeat the initial dose in one hour. Subsequent dosages should be oral, starting at 25 mg. to 50 mg. t.i.d.

Alcoholism—Severely agitated patients: *Starting intramuscular dose* is 25 mg. to 50 mg. (1-2 cc.). Repeat initial dose if necessary and if no hypotension occurs. Start subsequent oral dosages at 25 mg. to 50 mg. t.i.d. **Agitated but manageable patients:** *Starting oral dose* is 50 mg., followed by 25 mg. to 50 mg. t.i.d. For ambulatory patients with withdrawal symptoms or sober chronic alcoholics, *starting oral dosage* is 10 mg. t.i.d. or q.i.d., or 25 mg. b.i.d. or t.i.d. Patients in a stuporous condition should be allowed to sleep off some of the effects of the alcohol before 'Thorazine' is administered.

CHILDREN'S DOSAGE

For Behavior Disorders—*Oral dosage* is on the basis of ¼ mg./lb. of body weight q4-6h, until symptoms are controlled (i.e., for 40 lb. child—10 mg. q4-6h). *Rectal dosage* is on the basis of ½ mg./lb. of body weight q6-8h, p.r.n. (i.e., for 20-30 lb. child—half of a 25 mg. suppository q6-8h). *Intramuscular dosage* is on the basis of ¼ mg./lb. of body weight q6-8h, p.r.n. In children up to 5 years (or 50 lbs.)—not over 40 mg./day; in children 5-12 years (or 50-100 lbs.)—not over 75 mg./day except in extreme unmanageable cases. In severe cases, higher dosages than those recommended above may be necessary. In such cases, 50-100 mg. daily has been used and, in older children, as much as 200 mg. daily or more may be required.

IMPORTANT NOTES ON INJECTION

Except for acute ambulatory cases, parenteral administration should generally be reserved for bedfast patients. Parenteral administration should always be made with the patient lying down and remaining so for at least ½ hour afterward because of possible hypotensive effects. The injection should be given *slowly, deep* into the upper outer quadrant of the buttock. If irritation and pain at the site of injection are problems, dilution of 'Thorazine' Injection with physiologic saline solution or 2% procaine solution may be helpful. Subcutaneous administration is not advisable, and care should be taken to avoid injecting undiluted 'Thorazine' Injection into a vein. Intravenous administration is recommended only for severe hiccups and surgery. 'Thorazine' Injection should not be mixed with other agents in the syringe. Because contact dermatitis has been reported with 'Thorazine', nurses or others giving frequent injections should avoid getting the solution on hands or clothing. 'Thorazine' Injection should be protected from light, since exposure may cause discoloration. Slight yellowish discoloration will not alter potency or efficacy. If markedly discolored, the solution should be discarded.

SIDE EFFECTS

The drowsiness caused by 'Thorazine' is usually mild to moderate and disappears after the first or second week of therapy. If, however, drowsiness is troublesome, it can usually be controlled by lowering the dosage or by administering small amounts of dextro amphetamine.

Other side effects reported occasionally are dryness of the mouth, nasal congestion, some constipation, miosis in a few patients and, very rarely, mydriasis.

Mild fever (99°F.) may occur occasionally during the first days of therapy with large intramuscular doses.

Some patients have an increased appetite and gain weight, but usually reach a plateau beyond which they do not gain.

CAUTIONS

Jaundice: The over-all incidence of jaundice due to 'Thorazine' has been low—regardless of indication, dosage, or mode of administration. It appears to be related to duration of therapy. Few cases have occurred in less than one week or after six weeks. The jaundice that has occurred mimics the obstructive type, is without parenchymal damage, and is usually promptly reversible upon the withdrawal of 'Thorazine'. Although the mechanism is not clearly understood, most investigators conclude that it is a sensitivity reaction in susceptible individuals.

There is no conclusive evidence to indicate that pre-existing liver disease makes the patient more susceptible to jaundice. (Patients with known alcoholic cirrhosis have been treated with 'Thorazine' without further alteration of liver function.) Nevertheless, 'Thorazine' should be used with due consideration in a patient with liver disease.

If a patient on 'Thorazine' suddenly develops fever with grippe-like symptoms, his serum should be tested for increased bilirubin or his urine for the presence of bile. If any of these tests are positive, 'Thorazine' should be discontinued.

Because detailed liver function tests of 'Thorazine'-induced jaundice give a picture which mimics extrahepatic obstruction, exploratory laparotomy should be withheld until sufficient studies confirm extrahepatic obstruction.

Agranulocytosis: Agranulocytosis, although rare, has been reported. Patients should be observed regularly and asked to report at once the sudden appearance of sore throat or other signs of infection. If white blood counts and differential smears give an indication of cellular depression, the drug should be discontinued, and antibiotic and other suitable therapy should be instituted.

Because most reported cases have occurred between the fourth and the tenth weeks of treatment, patients on prolonged therapy should be observed particularly during that period.

A moderate suppression of total white blood cells, sometimes observed in patients on 'Thorazine' therapy, is not an indication for discontinuing 'Thorazine' unless accompanied by other symptoms.

Potentiation: 'Thorazine' prolongs and intensifies the action of many central nervous system depressants such as anesthetics, barbiturates and narcotics. Consequently, it is advisable to stop administration of such depressants before initiating 'Thorazine' therapy. Later the depressant agents may be reinstated, starting with low doses, and increasing according to response. Approximately ¼ to ½ the usual dosage of such agents is required when they are given in combination with 'Thorazine'. (However, 'Thorazine' does not potentiate the anticonvulsant action of barbiturates. In patients who are receiving anticonvulsants, the dosage of these agents—including barbiturates—should not be reduced if 'Thorazine' is started. Rather, 'Thorazine' should be started at a very low dosage and increased, if necessary.)

Hypotensive Effect: Postural hypotension and simple tachycardia may be noted in some patients. In these patients, momentary fainting and some dizziness are characteristic and usually occur shortly after the first parenteral dose, occasionally after a subsequent parenteral dose—very rarely after the first oral dose. In most cases, prompt recovery is spontaneous and all symptoms disappear within ½ to 2 hours with no subsequent ill effects. Occasionally, however, this hypotensive effect may be more severe and prolonged, producing a shock-like condition.

In consideration of possible hypotensive effects, the patient should be kept under observation (preferably lying down) for some time after the initial parenteral dose. If, on rare occasions, hypotension does occur, it can ordinarily be controlled by placing the patient in a recumbent position with head lowered and legs raised. If a vasoconstrictor is required, 'Levophed' and 'Neo-Synephrine'⋆ are the most suitable. Other pressor agents, including epinephrine, are not recommended because phenothiazine derivatives may reverse the usual elevating action of these agents and cause a further lowering of blood pressure.

Antiemetic Effect: The antiemetic effect of 'Thorazine' may mask signs of overdosage of toxic drugs and may obscure diagnosis of conditions such as intestinal obstruction and brain tumor.

Dermatological Reactions: Dermatological reactions have been reported. Most have been of a mild urticarial type, suggesting allergic origin. Some appear to be due to photosensitivity, and patients on 'Thorazine' should avoid undue exposure to the summer sun.

Neuromuscular (Extrapyramidal) Reactions: With very high doses of 'Thorazine', as frequently used in psychiatric cases over long periods, a few patients have exhibited neuromuscular (extrapyramidal) reactions which closely resemble parkinsonism. Such symptoms are reversible and usually disappear within a short time after the dosage has been decreased or the drug temporarily withdrawn. These reactions can also be controlled by the concomitant administration of an anti-parkinsonism agent (see *Physicians' Desk Reference*). Depending on the severity of the symptoms, suitable supportive measures such as maintaining a clear airway and adequate hydration should be employed. When 'Thorazine' is reinstituted, it should be at a lower dosage.

Lactation: Moderate engorgement of the breast with lactation has been observed in female patients receiving very large doses of 'Thorazine'. This is a transitory condition which disappears on reduction of dosage or withdrawal of the drug.

CONTRAINDICATIONS

'Thorazine' is contraindicated in comatose states due to central nervous system depressants (alcohol, barbiturates, narcotics, etc.) and also in patients under the influence of large amounts of barbiturates or narcotics.

SUPPLIED

Tablets, 10 mg., 25 mg., 50 mg. and 100 mg., in bottles of 50, 500 and 5000; 200 mg., for use in mental hospitals, in bottles of 500 and 5000. (Each tablet contains 10 mg., 25 mg., 50 mg., 100 mg., or 200 mg. of chlorpromazine hydrochloride.)

Spansule® capsules, 30 mg., 75 mg., 150 mg. and 200 mg., in bottles of 30, 250 and 1500; also 300 mg., in bottles of 30 and 1500. (Each 'Spansule' capsule contains 30 mg., 75 mg., 150 mg., 200 mg., or 300 mg. of chlorpromazine hydrochloride.)

Ampuls, 1 cc. and 2 cc. (25 mg./cc.), in boxes of 6, 100 and 500. (Each cc. contains, in aqueous solution, 25 mg. of chlorpromazine hydrochloride; 2 mg. of ascorbic acid; 1 mg. of sodium bisulfite; 1 mg. of sodium sulfite; 6 mg. of sodium chloride.)

Multiple-dose Vials, 10 cc. (25 mg./cc.), in boxes of 1, 20 and 100. (Each cc. contains, in aqueous solution, 25 mg. of chlorpromazine hydrochloride; 2 mg. of ascorbic acid; 1 mg. of sodium bisulfite; 1 mg. of sodium sulfite; 1 mg. of sodium chloride; 2% benzyl alcohol as preservative.)

Syrup, 10 mg./teaspoonful (5 cc.), in 4 fl. oz. bottles. (Each 5 cc. contains 10 mg. of chlorpromazine hydrochloride.)

Suppositories, 25 mg. and 100 mg., in boxes of 6. (Each suppository contains 25 mg. or 100 mg. of chlorpromazine; glycerin, glyceryl monopalmitate, glyceryl monostearate, hydrogenated cocoanut oil fatty acids, hydrogenated palm kernel oil fatty acids, lecithin.)

Concentrate (for hospital use), 30 mg./cc., in 4 fl. oz. bottles, in cartons of 12 and 36, and in gallon bottles. (Each cc. contains 30 mg. of chlorpromazine hydrochloride.)

⋆'Levophed' and 'Neo-Synephrine' are the trademarks (Reg. U.S. Pat. Off.) of Winthrop Laboratories for its brands of levarterenol and phenylephrine respectively.

COOK COUNTY
graduate school of medicine
INTENSIVE POSTGRADUATE COURSES

STARTING DATES—WINTER-SPRING, 1962

Surgical Technic	Two Weeks, Feb. 19, April 2
Surgery of Colon & Rectum	One Week, Mar. 5
Surgical Board Review, Part II	Two Weeks, Mar. 5
General Surgery	One Week, Feb. 26; Two Weeks, April 2
Gynecology, Office & Operative	Two Weeks, April 9
Vaginal Approach to Pelvic Surgery	One Week, Mar. 26
Obstetrics, General & Surgical	Two Weeks, Mar. 12
Pain Relief in Childbirth	3 Days, Mar. 7
Proctoscopy & Sigmoidoscopy	One Week, Mar. 26
Treatment of Varicose Veins	One Week, Mar. 26
Basic Internal Medicine	Two Weeks, Mar. 26
Basic Electrocardiography	One Week, Mar. 19
Gallbladder Surgery	3 Days, Mar. 12
Surgery of Hernia	3 Days, Mar. 15
Urology	Two Weeks, April 2
Surgery of the Hand	One Week, April 16

TEACHING FACULTY:
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ADDRESS:
REGISTRAR, 707 South Wood Street,
Chicago 12, Illinois

Emotions Can Affect Accident Tendency

(Continued from Page 38)

avoid walking around the front of a truck. The man explained that he had avoided walking in front of trucks ever since he had been hit by a truck as a child.

In another case, an employee who was annoyed at his helper's carelessness overlooked a safety precaution himself in handling some chemicals. Although an accident did not occur, a violent explosion could have resulted. When interviewed, the employee said:

"I was so mad with the helper, I knew something would go wrong. I guess the strain was too much for me waiting for him to do something wrong so I went ahead and did it myself."

In another instance, a man fractured a finger while working on a machine and explained he was still "burned up inside" after an argument with his wife the night before.

Dr. Rogg concluded that "individuals do become emotionally charged under some circumstances in a manner that may predispose them to accidents."

Pulmonary Eosinophilia—F. P. Incaprera. Amer. Rev. Resp. Dis.—Vol. 84:730 (Nov.) 1961.

A case of pulmonary eosinophilia with the results of steroid therapy is reported. Long-term therapy is recommended in view of the frequency of relapses, whenever therapy is required.

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- House of Delegates
  (MARK HOPKINS HOTEL)
  Opening Session Saturday Evening, April 14
  Tuesday Afternoon, April 17, and Wednesday, April 18
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  8:30 a.m. to 5:00 p.m. . . . . No Registration Fee

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New Antidote Effective Against Phosphorus Poisoning

A two-year-old boy who was almost fatally poisoned by swallowing insecticide was revived in less than 20 minutes by the administration of a new antidote, it was reported recently.

The case was described in the November *Archives of Environmental Health,* published by the American Medical Association.

The youngster swallowed some parathion, a toxic phosphorus compound, which had spilled to the ground apparently from a pesticide container, Drs. Griffith E. Quinby, Wenatchee, Wash., and Gordon B. Clippison, Yakima, Wash., reported.

The child was rushed to a hospital in an unconscious condition. The usual antidote, atropine, was administered but did little to improve his condition, the physicians said. It was then decided to try a new agent, 2-PAM (2-pyridine aldoxime methiodide), they said.

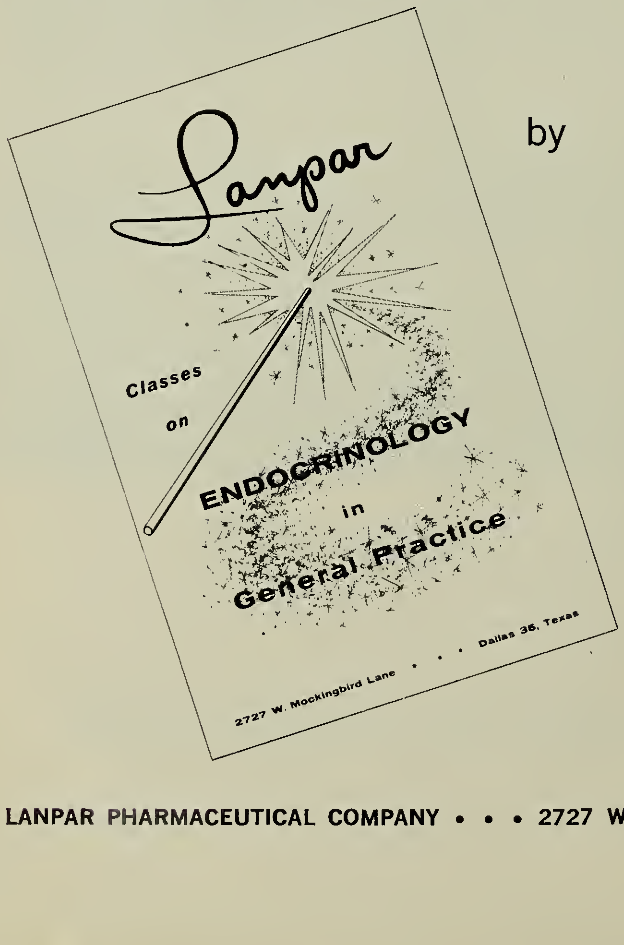
Within 10 minutes after it was given, they said, the boy began to move and respond.

"He appeared to be an exhausted but reasonably normal, sleepy child," they said. "No additional treatment was given."

The authors said they believed the continued administration of atropine would have brought about the child's recovery but not as promptly as did

(Continued on Page 76)

ENDOCRINOLOGY IN GENERAL PRACTICE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REFERENCES AND REVIEWS

Clinical Assessment of Anticoagulant Control—L. N. Roberts and G. P. Mason. Canad. Med. Assn. J.—Vol. 85: 831 (Oct. 7) 1961.

The standard clotting time, the thrombotest, and the usual Quick one-stage prothrombin time were compared both in a group of 40 hospital "normals" and in a group of 40 patients on anticoagulation therapy, from the standpoint of range, of normal values, reproducibility of tests and clinical convenience. All techniques are given in detail. Both the standard clotting time and the thrombotest possess certain clinical advantages and disadvantages which are discussed by the authors.

* * *

Surgical Relief of Diffuse Subvalvular Aortic Stenosis—J. W. Kirklin and F. H. Ellis, Jr. Circulation—Vol. 24: 739 (Oct., part 1) 1961.

Direct surgical relief of diffuse subvalvular aortic stenosis has been accomplished in two cases by open operation through a left ventriculotomy.

* * *

Management Efficiency in the Health Service—J. R. Seale. Lancet—Vol. 2:476 (Aug. 26) 1961.

The National Health Service in Britain is an unsound organization because it is directly controlled by the central government and is financed by general taxation. The service has provided medical care of high quality by using the material, human, and moral capital which it inherited from the past but has inadequately replenished. A severe shortage of British doctors has recently developed, and a declining standard of medical care provided by the health service is probable. Radical changes in the methods of finance and administration are required if the health service is to achieve its objectives.

* * *

Retinal Detachment—C. L. Schepens and D. Marden. Arch. Ophthal.—Vol. 66:631 (Nov.) 1961.

Analysis of records of 3,063 patients with either retinal detachment or a related condition reveals that senescence is a predisposing factor and males are more susceptible than females. Males are affected more severely and at a younger age. General behavior of retinal detachment disease resembles that of sclerosis of coronary arteries.

* * *

Polymyxin B: Pseudomonas Ulcers—J. W. McMeel, R. M. Wood, and L. B. Senterfit. Arch. Ophthal.—Vol. 66:646 (Nov.) 1961.

Experimental Pseudomonas corneal infections treated with polymyxin B yielded negative cultures five days after treatment had begun. Three weeks after infection, treated eyes showed residual central corneal haziness, whereas untreated controls showed thickness and opaque corneal densities.

* * *

Reaction Time in Normal and Amblyopic Eyes—G. K. von Noorden. Arch. Ophthal.—Vol. 66:695 (Nov.) 1961.

Reaction time was measured in three amblyopic eyes and the results were compared with those obtained from the

(Continued on Page 80)

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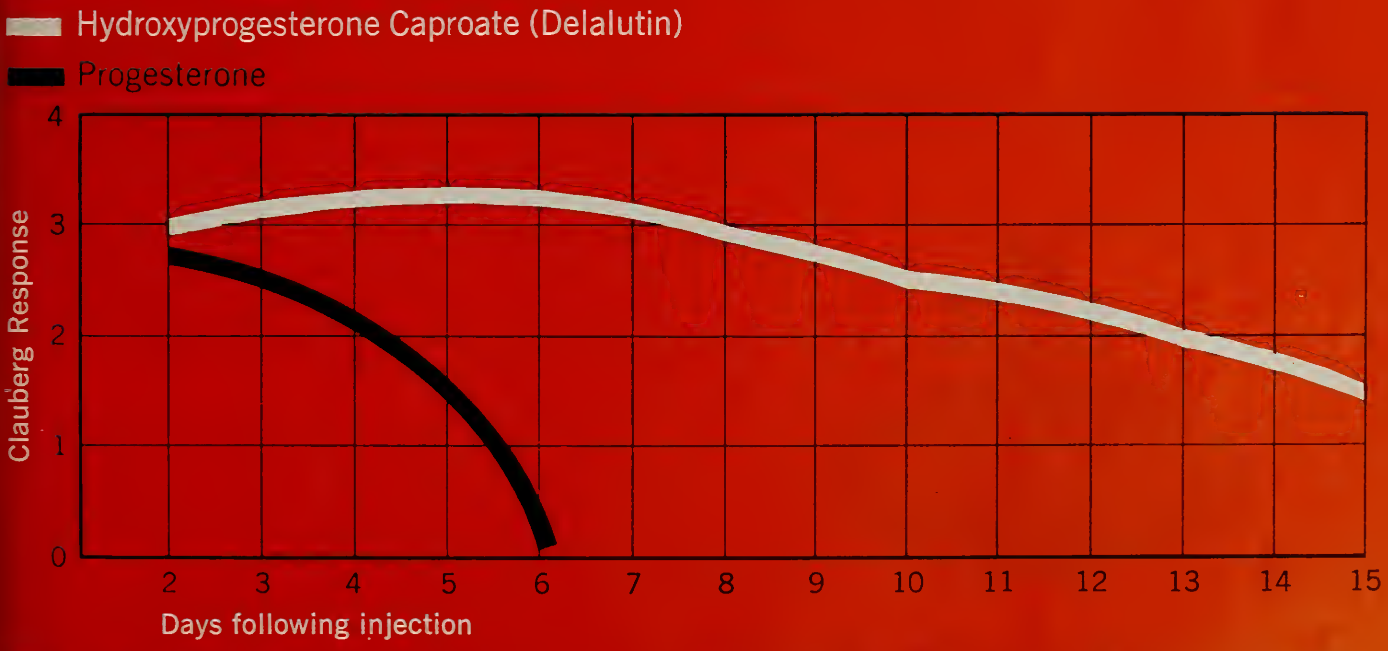
Borman, A.: Laboratory Report on the Duration of Action of 17-Alpha-Hydroxy-progesterone-n-Caproate (Delalutin). The Squibb Institute for Medical Research, May 17, 1955.



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Complete information on administration and dosage is supplied in the package insert and in your Squibb Product Reference and Product Brief.

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Stomach Checked by Swallowing Tiny Radio

A tiny radio device which can report on the acidity of the stomach after it is swallowed was described in the November 25 *Journal of the American Medical Association.*

An electrode sensitive to acidity is connected to the capsule radio which transmits an FM radio signal, Edward H. Storer, M.D., David T. Dodd, M.D., Peter A. Snyder and Charles O. Eddlemon, B.S., University of Tennessee College of Medicine, Memphis, Tenn., said.

"The signal is transmitted at 9.6 megacycles at a power of about one milliwatt," they said. "Because of the very short range of the signal, a circular receiving antenna coil is worn like a belt by the person being tested. A signal . . . can be picked up by a suitable receiver at distances up to three feet from the antenna."

Although the device is "still very crude," the researchers said, it demonstrated that the principle is sound.

The present device is "too large to be swallowed by anyone except a dedicated investigator," they said. However, they said, it is hoped that the need for batteries can be eliminated and other components can be further miniaturized so that the capsule can be swallowed without discomfort.

The device was developed as a better method of determining stomach acidity, which has an important relationship to peptic ulcer and stomach cancer, they said.

New Antidote Effective Against Phosphorus Poisoning

(Continued from Page 56)

2-PAM which proved "an extremely effective and rapid therapeutic agent in a near-fatal case."

"Because it is a specific antidote, 2-PAM should reduce the severity of illness and mortality rate of severe poisoning due to organic phosphorus compounds," they said.

The phosphorus compounds are used widely as insecticides and contain some of the most toxic agents known, the "nerve gases." The poison inhibits the production of one of the body's enzymes, cholinesterase, which is important to the normal function of the body.

Reports of the use of 2-PAM in such cases in other countries have appeared in Japan, England and this country, they said. However, the present case is believed to be the first treated with 2-PAM in the United States, they said.

Serial Development of Teeth in an Ovarian Teratoma: A 13-Year X-ray Record of Neoplasia—E. Wollin and M. B. Ozonoff. New Engl. J. Med.—Vol. 265:897 (Nov. 2) 1961.

A series of roentgenograms record the successive appearance and progressive differentiation of several teeth in an ovarian teratoma. The relevance of this observation to theories of teratogenesis and neoplasia is discussed.

You and your patients should read the story beginning on page 69—December, Reader's Digest. It deals tersely and thoughtfully with major issues raised in the investigation of the prescription drug industry.

This message is brought to you on behalf
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REFERENCES AND REVIEWS

(Continued from Page 72)

sound eye of the same person, and from three healthy individuals. The reaction time was significantly prolonged in all amblyopic eyes. The results were considered to present further evidence for a prolongation of sensation time in strabismic amblyopia.

* * *

Blastomycosis—M. C. Gephardt and T. J. Hanlon. Arch. Derm.—Vol. 84:660 (Oct.) 1961.

Blastomycosis of the skin, established by tissue biopsy, with dramatic response to emphotericin B, is reported. The treatment was complicated by toxic reaction manifested as psychic disturbance and urticaria. Control of the side-reaction that enabled completion of the course of treatment with amphotericin B is detailed.

* * *

Bibliography of the History of Ophthalmology in 1959 and 1960—C. Snyder. Arch. Ophthal.—Vol. 66:744 (Nov.) 1961.

Arranged under broad subject headings are the titles of 237 papers on the history of ophthalmology that have appeared in books and journals published during 1959-1960. All the titles are translated into English. Several papers are recommended for reading.

* * *

Ulcerative Colitis with Onset After the Age of 50—D. H. Law, H. Steinberg, and M. H. Sleisenger. Gastroenterology—Vol. 41:457 (Nov.) 1961.

Thirty patients with onset of idiopathic ulcerative colitis after the age of 50 are reported, and the literature is reviewed. The high incidence of misdiagnoses and the presence of unrelated disease are stressed. Steroid treatment was useful in selected cases. The reasons for apparently poor results from surgery are discussed in relation to indication for surgery and the type of operation performed. The same principles of treatment are successful in this age group as in younger patients but even closer supervision is necessary.

* * *

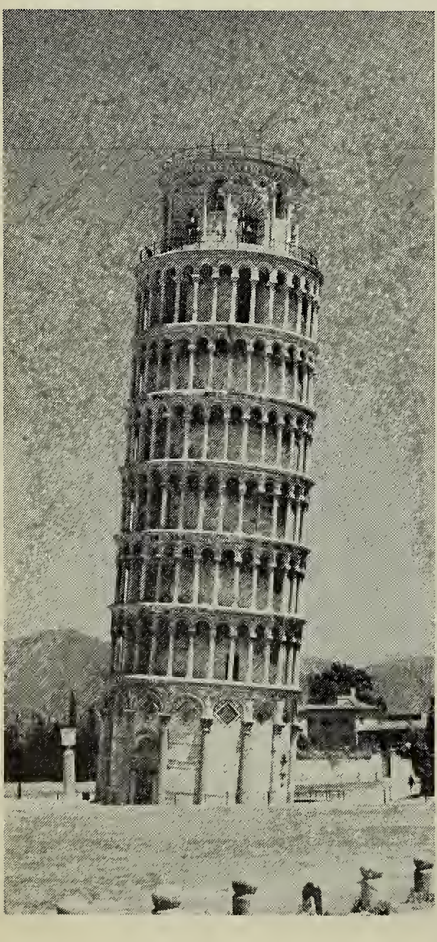
Enzymatic Studies in Different Types of Normal and Leukemic Human White Cells—J. Frei, C. Borel, G. Horvath, B. Cullity, and A. Vannotti. Blood—Vol. 18:317 (Sept.) 1961.

Glycolysis, respiration, reducing power, esterase, proteolysis, RNA and DNA content, ALA dehydrase, and porphobilinogenase were studied in preparations of normal human white blood cells, and an attempt was made to calculate the activity due to each category of cells. These functions were also studied in the eosinophil (2 cases of eosinophilia) and in the leukemic cell (12 cases of leukemia) and the variations in behavior are discussed.

* * *

Incarcerated Traumatic Diaphragmatic Hernia—A. A. Bernardo, W. Y. Marcus, and R. T. Shackelford. Arch. Surg.—Vol. 83:650 (Nov.) 1961.

A constant awareness of the problem of injury to the diaphragm following thoracoabdominal trauma is necessary. With the increasing number of cases with multiple injuries, this problem is more frequently encountered. In the case reported, there was a 10-year symptom-free interval following the initial trauma. The negative exploratory laparotomy done at that time illustrates the point that the injury to the diaphragm may be so small as to be overlooked at surgery. Prompt diagnosis and treatment is necessary to keep the morbidity and mortality of this condition at a minimum.



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1. *Methyl-Testerone-Thyroid in the Treatment of Impotence,* A. S. Titeff *(Prepub. Report).*
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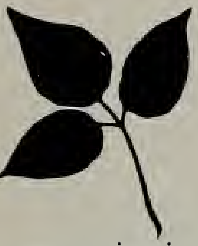

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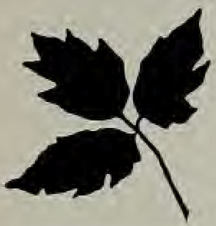
Rhus radicans



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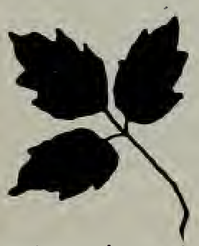

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Dosage and administration: PARENTERAL—see package insert. TABLETS—Aqua Ivy Tablets, 1.2 mg., are for the prophylactic treatment of poison ivy or poison oak dermatoses. The following dosage schedule is recommended for adults and children (children under 6 years of age should receive close medical supervision).

1st and 2nd weeks: ½ tablet daily
3rd and 4th weeks: 1 tablet daily
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Precaution: Aqua Ivy Tablets should not be administered in the presence of active poison ivy or poison oak dermatitis. Should the patient, while taking the tablets, contract poison ivy or oak dermatitis, the medication should be stopped until the rash heals. When clear, the tablets may be resumed according to prescribed dosage.

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For therapeutics: in 5 cc. vials of 1:50 dilution (0.3 mg./cc.).
Aqua Ivy Tablets are available in bottles of 50 and 100 tablets, 1.2 mg. each.

References: 1. Passenger, R. E.; Spain, W. C., and Strauss, M. B.: J. Allergy 27:408 (Sept.) 1956. 2. Gaillard, G. E.: J. Allergy 21:55 (Jan.) 1950. 3. Gaillard, G. E.: New York J. Med. 56:2255 (July 15) 1956. 4. Langs, R. J., and Strauss, M. B.: J. Allergy 30:130-139 (Mar.-Apr.) 1959.

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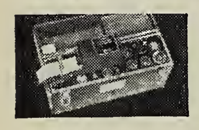

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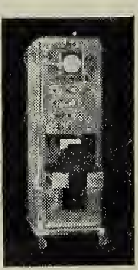

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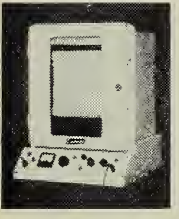

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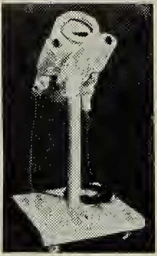

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Guidance Quacks Create More Problems Than They Solve

Quack guidance counsellors cause more problems than they solve, an article in the December *Today's Health* magazine warned recently.

Persons seeking advice about personal, educational or vocational problems should make sure they obtain the services of a qualified guidance counsellor, Willard Abraham, Ph.D., chairman of the department of special education, Arizona State University, Tucson, Ariz., wrote in the magazine published by the American Medical Association.

"Thousands of people in recent years have learned too late how easy it is to become involved in guidance fakery, and how difficult it is to come out unharmed," he said.

The charlatan's advice often results in "loss of money, wasted time, and emotional upheavals," he said.

There are several ways that the bona fide counsellor can be recognized and located, Abraham said.

"The qualified guidance person has a strong academic background in the area where he proposes to provide assistance," he said.

"His college or university degrees will be from reputable institutions, and he should be a member of a recognized and respected professional organization related to his work. He should obviously be successful in the field where he professes to be an authority, whether it's the world of occupations or the marriage arena!"

Certain professional groups publish directories of qualified persons or organizations, Abraham said.

Directories on file in local libraries can save "money, time, and trouble," he advised. Other sources of information are the Better Business Bureau and the Chamber of Commerce, he said.

"Sound guidance is based on something more substantial than a sincere question quickly followed by a pat answer," he said. "It attempts to help a person help himself, to lead him through a maze of facts, fancy, and fallacy. It encourages him to make his *own* final decision, the one with which he alone will have to live."

Abraham also listed 10 ways in which to avoid quack counsellors:

—Don't depend on "systems," such as astrology, handwriting analysis, etc.

—Don't accept guidance by mail.

—Don't accept a ready-made formula that sounds as though it would fit dozens of other people.

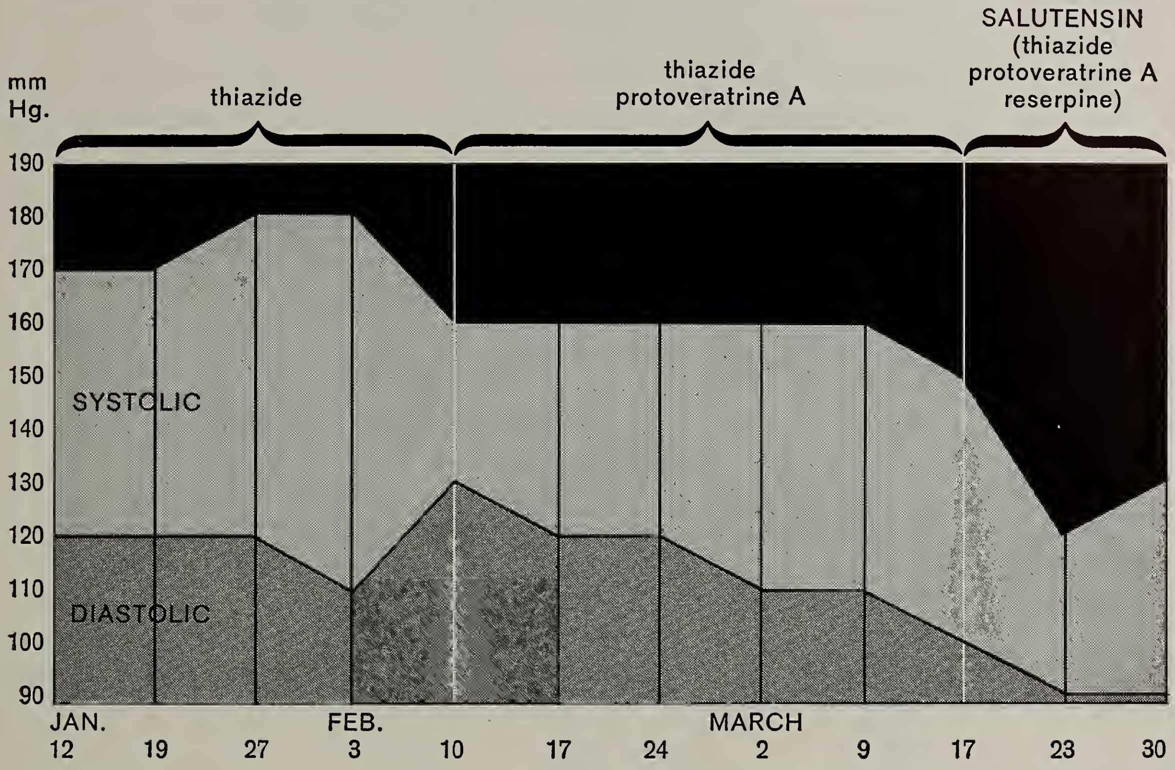
—Don't trust the counsellor whose promises, in the first or second consultation, are definite or *too* satisfying.

—Don't be a victim of high-pressure advertising. The competent counsellor needs no such means for building a reputation.

(Continued on Page 24)

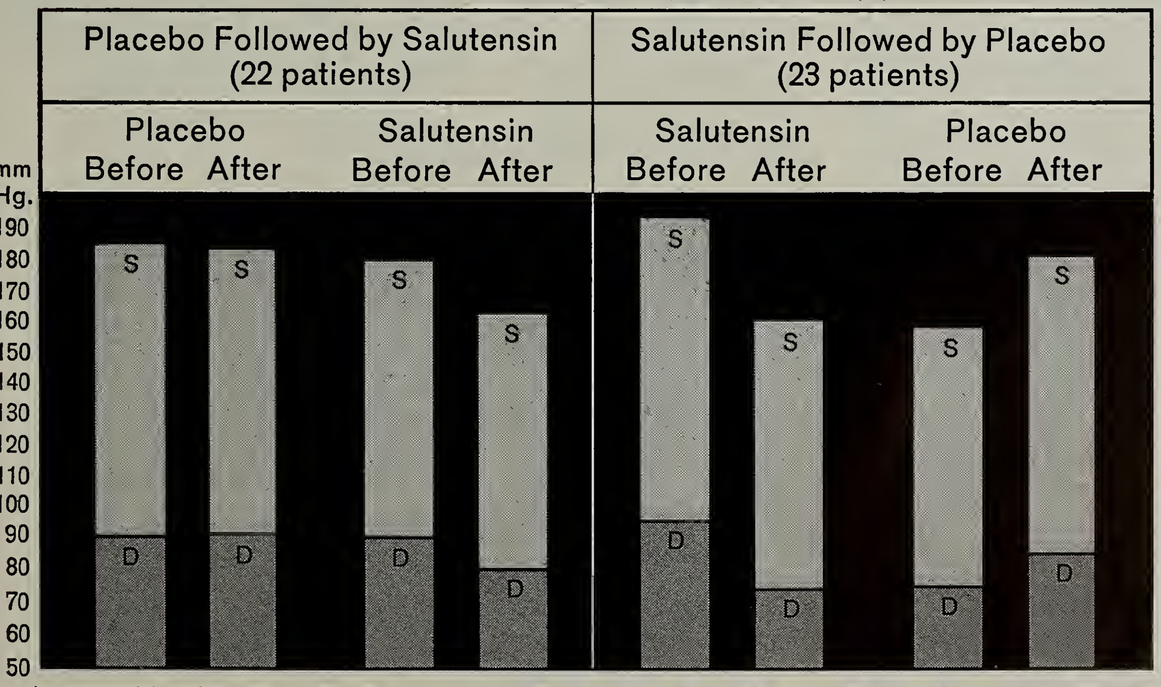
11 WEEKS TO LOWER BLOOD PRESSURE TO DESIRED LEVELS BY SERIAL ADDITION OF THE INGREDIENTS IN SALUTENSIN IN A TEST CASE

(Adapted from Spiotta, E. J.: Report to Department of Clinical Investigation, Bristol Laboratories)



3½ WEEKS TO LOWER BLOOD PRESSURE TO DESIRED LEVELS USING SALUTENSIN FROM THE START OF THERAPY IN A "DOUBLE BLIND" CROSSOVER STUDY

Mean Blood Pressures–Systolic (S) and Diastolic (D)



In this "double blind" crossover study of 45 patients, the mean systolic and diastolic blood pressures were essentially unchanged or rose during placebo administration, and decreased markedly during the 25 days of Salutensin therapy. (Smith, C. W.: Report to Department of Clinical Investigation, Bristol Laboratories.)

BRISTOL LABORATORIES/Div. of Bristol-Myers Co., Syracuse, N.Y.

New Attack Successful Against Drug-Resistant Bacteria

A new method of fighting bacteria which resist antibiotics was reported in the November 18 *Journal of the American Medical Association.*

Bacterial infections of the urinary tract were cured by antibiotics which previously had no beneficial effect after the administration of new mercurial compounds, Drs. John K. Lattimer, Harry Seneca, Hans H. Zinsser, and J. T. Donovan, New York City, said in a preliminary report.

The authors noticed that drug-resistant bacteria produced a high level of urease, an enzyme which like all enzymes acts as a catalyst in the chemical processes of the body.

Further experimentation revealed that a mercurial compound known as chlormerodrin interfered with the production of urease and rendered the bacteria susceptible to the same antibiotic it previously resisted, the researchers said.

Subsequently two other drugs were developed to block this enzyme activity and have proved to be "more effective," they said. These drugs are still in the experimental stage and have not been named, they said.

The enzyme blockers made one particularly troublesome germ, Aerobacter aerogenes, susceptible to antibiotics, the authors reported. This germ now accounts for a large portion of chronic urinary infections, they said, and causes a high death rate.

Guidance Quacks Create More Problems Than They Solve

(Continued from Page 16)

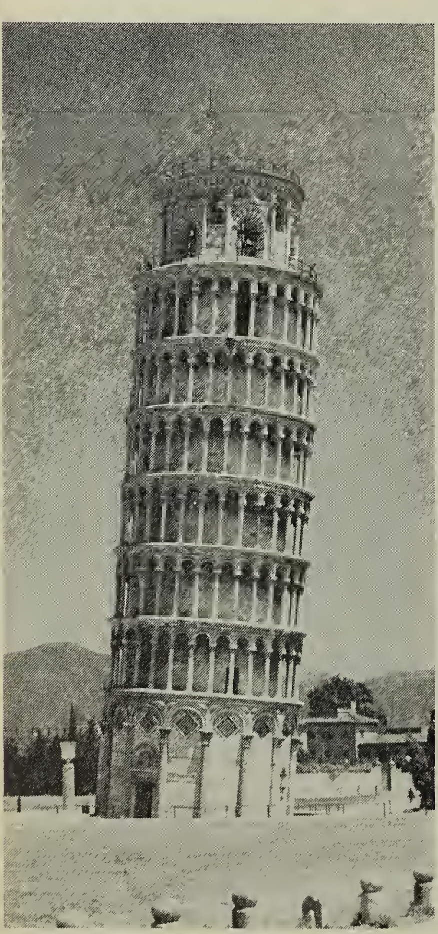
—Don't sign anything without reading it thoroughly.

—Don't fall victim to such "sure bait" for the gullible as a doctoral degree from a foreign university and "an accent that rivals Charles Boyer's." A counsellor's qualifications should be based on something more substantial.

—Don't assume that one test can give a dependable answer on which to base future action. No reputable guidance person or psychologist would restrict himself that much in helping to evaluate the problem.

—Don't be deluded by too many tests followed by obscure interpretations. The competent counsellor uses devices cautiously, and is careful to interpret results in layman's language.

—Don't depend on a counsellor whose library related to the kind of problem you have seems inadequate or even non-existent.



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1. *Methyl-Testerone-Thyroid in the Treatment of Impotence,* A. S. Titeff *(Prepub. Report).*
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Reference: 1. Scal, J. C.: Eye Ear Nose & Throat Month. **38**:738 (Sept.) 1959.

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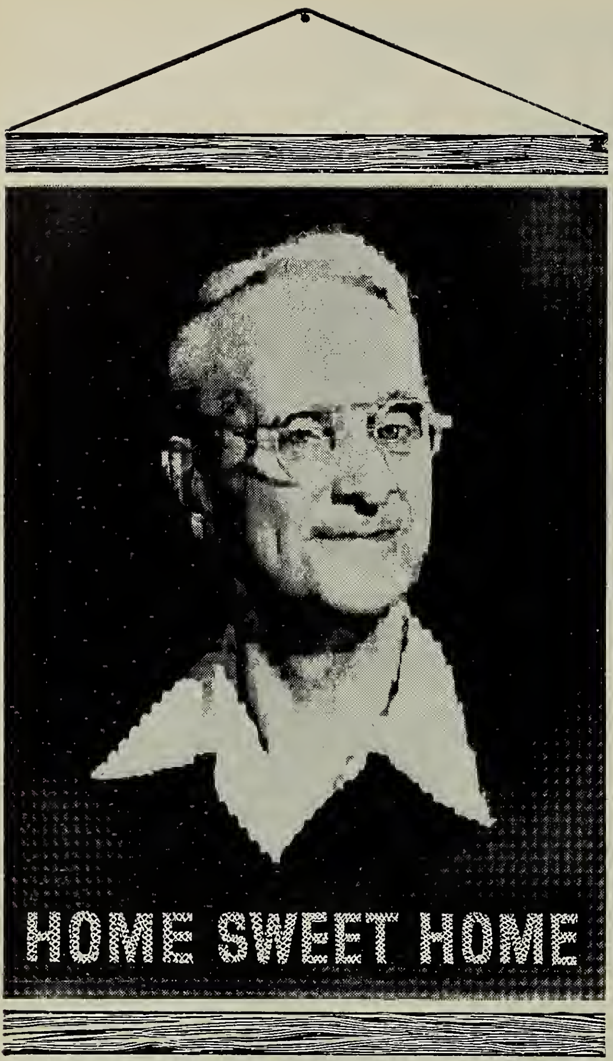

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Closed-Chest Massage Restarts Heartbeat in 78 Per Cent

Closed-chest cardiac massage was successful in 78 per cent of 138 sudden heart arrests, three Baltimore researchers said recently.

James R. Jude, M.D.; William B. Kouwenhoven, Dr. Ing., and G. Guy Knickerbocker, M.S.E., reported on their experience with the technique during the past two and one-half years at Johns Hopkins Hospital, in the December 16 *Journal of the American Medical Association.*

The technique consists of applying intermittent pressure on the lower breast bone which compresses the heart.

Using this method, coupled with artificial respiration, the heartbeat was restored in 107 of 138 arrests occurring in 118 patients, the authors said. Twenty-eight patients, or 24 per cent, survived the arrest and underlying disease to leave the hospital, they said.

Application of pressure to the proper part of the breast bone usually will prevent most complications of closed-chest massage, the authors said. Fractured or cracked ribs are the "most common complication" of this method, they said. However, this is not a major concern unless so many ribs are broken the resiliency of the rib cage is destroyed, they said.

The authors said that in the same patient external cardiac massage provides blood pressure as high as internal massage, i.e., the direct manual massage of the heart after an incision in the chest.

In comparing the two methods, they said, internal massage could produce damage to the heart more severe than that so far observed in hearts externally massaged.

Although mechanical devices to replace the human hand in external cardiac massage are under development and study, the authors said, their place in heart resuscitation is not yet established.

"While they are not likely to be the primary approach in reestablishing blood flow, they may form a secondary or supportive role," they said. "Clinical and experimental observations have shown them to be very effective in maintaining circulation."

PANLOBULAR AND CENTRILOBULAR EMPHYSEMA: CORRELATION OF CLINICAL FINDINGS WITH PATHOLOGIC PATTERNS—H. C. Sweet, J. P. Wyatt, A. J. Fritsch, and P. W. Kinsella. Ann. Intern. Med.—Vol. 55:565 (Oct.) 1961.

The clinical histories of 194 cases are correlated with the type and extent of emphysema found in postmortem lung macrosections. The patients dying of emphysema alone show that cough begins on the average at age 53, and after five years dyspnea on exertion appears, followed in seven years by cardiac failure leading to death at the average age of 68. Panlobular cases often have a cardiac onset, are more obese, have higher blood pressure levels, larger hearts, and more frequent cardiac failure. Right ventricular hypertrophy is more common, and the total lung capacity is usually greater in panlobular than in centrilobular emphysema.

Intestinal Virus Linked To Common Cold

For the first time an intestinal virus has been found to cause the common cold.

The virus, Coxsackie A-21, one of a group of "hardy agents of small size" which commonly inhabit the intestinal tract of man, was recovered from the throats of cold sufferers among Marine personnel at Camp Lejeune, N. C. Group A Coxsackie viruses previously have been associated with mild fevers and neurological diseases.

The discovery was reported by Karl M. Johnson, M.D., Maurice A. Mufson, M.D., and Robert M. Chanock, M.D., National Institutes of Health, Bethesda, Md., and Lt. Cdr. Henry H. Bloom, Ph.D., USN, Camp Lejeune, N. C., in the January 13 *Journal of the American Medical Association.*

The importance of Coxsackie A-21 in producing cold symptoms and the possible role of other intestinal viruses in this syndrome remain to be determined, the authors said. If Coxsackie A-21 is found to contribute substantially to the incidence of colds, they said, there are indications that a preventive Coxsackie A-21 vaccine would prove effective.

Although the picture is still far from clear and large obstacles may be encountered in any attempt to prevent respiratory illness by vaccination, these findings indicate that "important new information" about the nature of colds in adults will be forthcoming, a *Journal* editorial said. It is "not unlikely" that intestinal viruses may prove to be the cause of a certain percentage of colds, it said.

Investigators in this country and England have recovered other viruses having properties of intestinal viruses from persons with cold-like illnesses, the editorial said. This preliminary work indicates that there are numerous distant intestinal-like viruses capable of producing colds, it said.

In the Camp Lejeune study, 214 strains of Coxsackie A-21 virus were recovered from selected Marine recruits reporting to the base dispensary

(Continued on Page 40)

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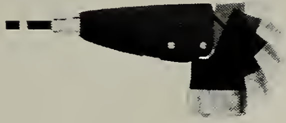

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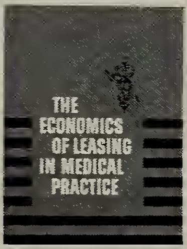

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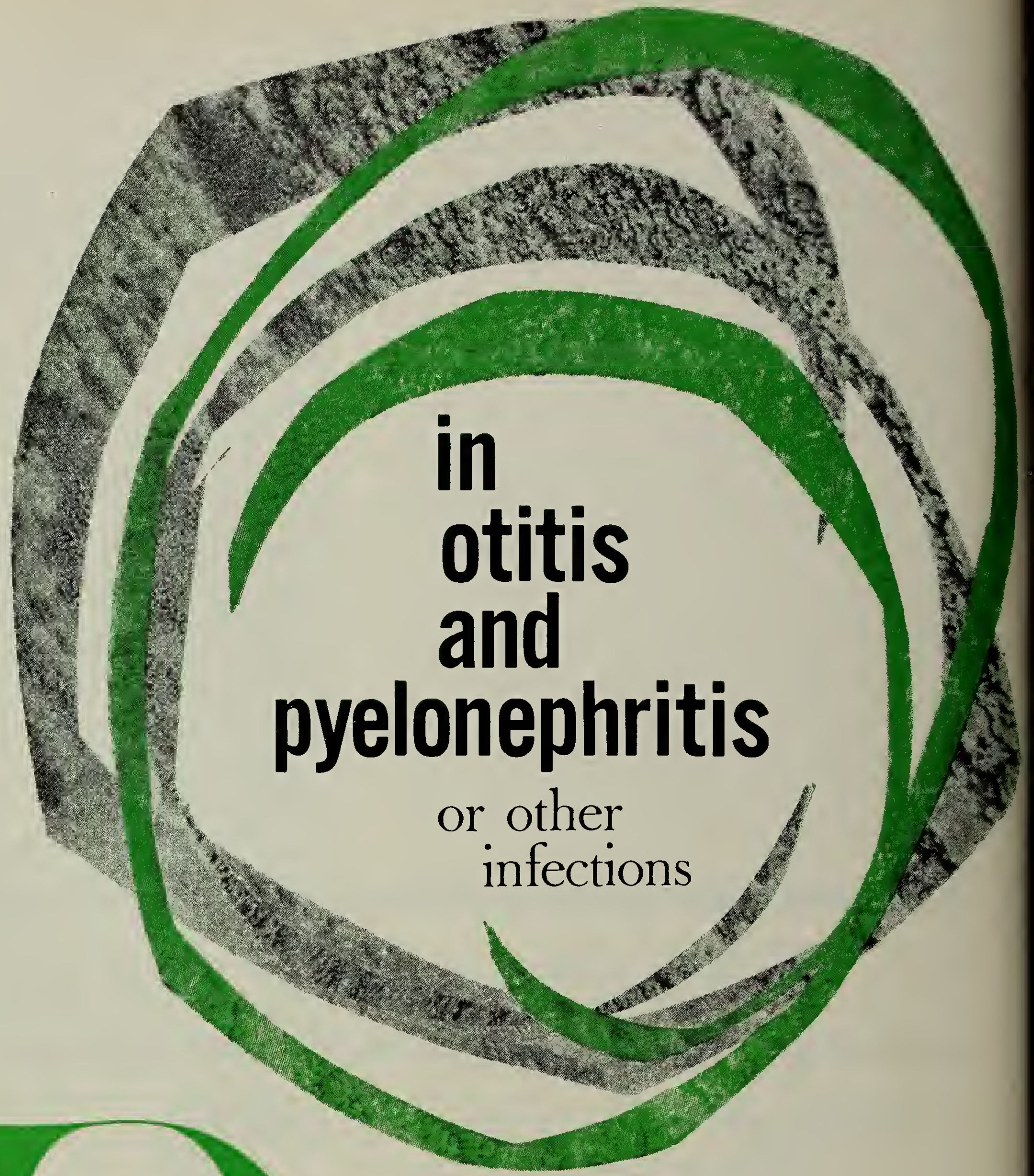

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Gynecology, Office & Operative	Two Weeks, April 9
Vaginal Approach to Pelvic Surgery	One Week, Mar. 26
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Intestinal Virus Linked To Common Cold

(Continued from Page 33)

both with and without respiratory ills during a 10-week period beginning September 12, 1960, the authors reported. Thirty-nine Coxsackie A-21 virus strains were recovered in a similar study of Marine nonrecruits, i.e., force troops stationed at the base for longer periods than the recruits, they said.

Rapid and extensive spread of infection was favored among the recruits by the high rate of turnover of personnel and numerous opportunities for close personal contact while housed in barracks, they said. By comparison, force troops were well dispersed and had considerably less opportunity for close personal contact, they said.

The study indicated that the virus was spread primarily via the respiratory route.

Among recruits the virus was recovered in 50 per cent of those with colds and 38 per cent of those without colds, a difference termed "statistically significant."

Among nonrecruits recovery of the virus was four times higher in the men with colds than in the men without colds.

Of 122 nonrecruits with colds, the virus was recovered from 32, while only 6 virus isolations were obtained from 108 men without colds, the authors reported.

These studies provide "the first evidence that Coxsackie A-21 virus may be recovered more frequently from persons with mild upper respiratory disease than from persons without such illness," the researchers concluded.

Not all of the respiratory illness which occurred during the study period could be associated with the Coxsackie virus, they said, and it was impossible to link any pattern of physical complaints with the presence of the virus.

However, in a comparison of cold victims with the virus and cold victims without the virus, the sniffles, headache, chills and fever were reported more frequently by those with the virus, they said.

During the study, 16 recruits were hospitalized with pneumonia, the researchers said, but a study of this group indicated that Coxsackie A-21 was not a causative factor.

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California
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OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION
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Volume 96 FEBRUARY 1962 Number 2

Cardiac Resuscitation Through the Intact Chest

LAURENCE M. RIVKIN, *M.D.*, and
RICHARD E. GARDNER, *M.D.*, San Francisco

• External cardiac compression and external defibrillation were successful in resuscitating 27 consecutive dogs after the production of ventricular fibrillation. Twelve patients survived following circulatory arrest treated with closed chest cardiac compression and, when indicated, defibrillation. Five additional patients were successfully resuscitated but died in the hospital. In fifteen cases, resuscitation was not successful.

Treatment of circulatory arrest resulting from cardiac asystole or ventricular fibrillation must be immediate and definitive. Until recently cardiac resuscitation was effected only by open thoracotomy and manual compression of the heart. Under ideal circumstances in the operating room, with the aid of an anesthesiologist, a trained surgeon can resuscitate most patients. In other locations in the hospital, the need for thoracotomy makes prompt and effective resuscitation more difficult.

Kouwenhoven and his associates[1] described a technique of external cardiac compression which was spectacularly successful in reviving many patients in whom circulatory arrest suddenly occurred. This method, consisting of rhythmic external compression on the lower sternum combined with external defibrillation in patients with ventricular fibrillation, was successful in resuscitating patients on the medical wards as well as in the operating room. It has also been successfully applied to patients in whom cardiac arrest occurred outside the hospital.

Recently, as representatives of the Surgical Committee of the San Francisco Heart Association, we studied this new method. An experimental program was established to confirm the efficacy of the closed chest technique in dogs. Experience was also gained in clinical application.

METHOD

Forty mongrel dogs, weighing 10 to 20 kg., were anesthetized with intravenous sodium pentobarbital. An endotracheal tube was inserted and was attached to a positive pressure respirator. The chest was shaved, and two electrodes were applied, one over the cardiac apex and one over the manubrium. The electrocardiogram and blood pressure were continuously recorded. A shock of 110 volts, A.C., of 1 second duration invariably resulted in ventricular fibrillation.

External cardiac compression was then instituted with the Kouwenhoven technique, modified for dogs because of their thoracic contour. The dog was placed halfway between the supine and right lateral decubitus position, and pressure was applied to the left side of the sternum. Rhythmic pressure of about 80 pounds was applied at a rate of 30 to 40 compressions a minute by the heel of the hand, the pressure being maintained half a second each time.

From the Cardiac Surgery Service, Mount Zion Hospital, and the Department of Surgery, University of California Medical Center, San Francisco 22. Supported in part by a grant from the San Francisco Heart Association.

Submitted August 9, 1961.

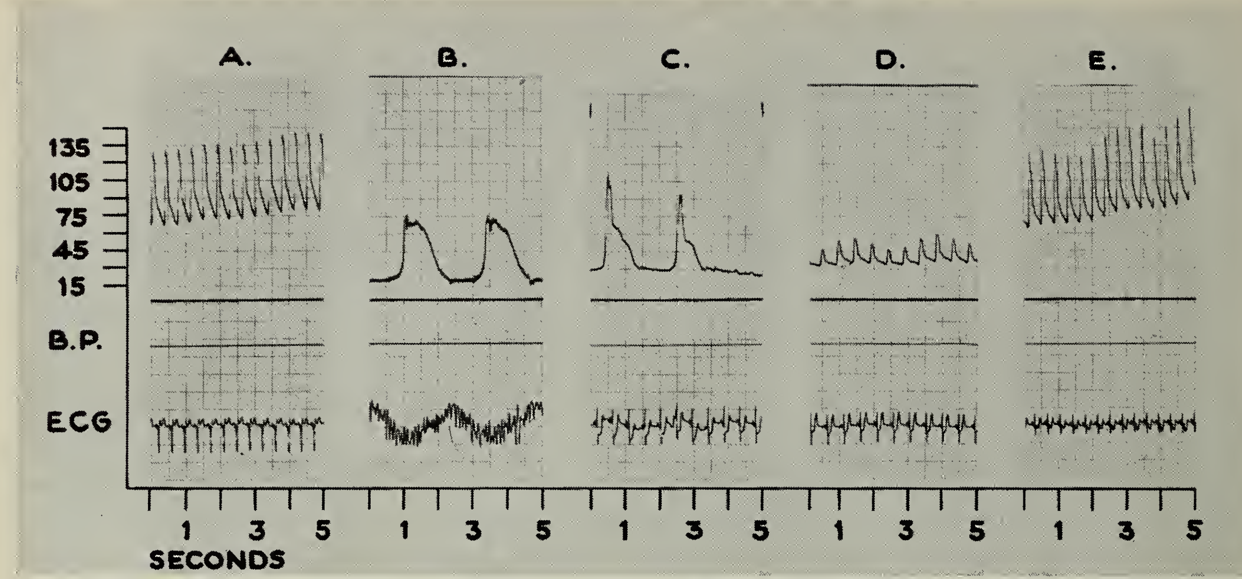


Figure 1.—Arterial blood pressure (in mm. of mercury) and electrocardiogram tracings during experimental ventricular fibrillation followed by defibrillation and recovery in a dog. *A*, control; *B*, during ventricular fibrillation and closed-chest cardiac compression (blood pressure 75/25 mm. of mercury); *C*, after defibrillation with shock of 440 volts (blood pressure supported by cardiac compression); *D*, beginning return of effective cardiac beats, 2 minutes after *C*; *E*, recovery of cardiac function, 1 minute after *D*.

RESULTS

Five of the first 13 dogs died. Defibrillation could not be done in three of these dogs because of inadequate ventilation. It was successfully accomplished in five others but they died later from intraperitoneal hemorrhage secondary to rupture of the liver. The last 27 dogs were long-term survivors after being subjected to ventricular fibrillation for 10 to 30 minutes. In this group the technique of sternal cardiac compression was altered to avoid damaging the dog's high and fragile subcostal liver. Systolic blood pressure of 80 to 125 mm. of mercury was maintained in all the dogs (Figure 1). Defibrillation was obtained in most of the dogs with one, 440-volt, A.C. shock for 0.25 second. In three instances, two such shocks were required. In three experiments one 880-volt shock at 0.25 second was necessary to defibrillate the animal. No dogs had more than first-degree burns from defibrillation. Occasionally ribs were fractured. All the surviving animals were sacrificed after two to three weeks. In no instance did signs of cardiac trauma occur. After defibrillation, the electrocardiogram became normal within several minutes. However, a "normal" electrocardiogram did not necessarily represent effective cardiac function, since some of the animals had severe hypotension. In these cases, cardiac compression was continued until the animal's blood pressure was restored. Intravenous epinephrine (4 cc. of 1:20,000 solution) and sodium lactate (40 cc. 1-molar solution) helped to restore cardiac function. Administration of epinephrine before defibrillation enhanced the defibrillation and caused immediate return of blood pressure to normal or above, following the defibrillating shock.

CLINICAL EXPERIENCE

During a period of six months our clinical experience has encompassed 32 patients with suddenly developing cardiac arrest or ventricular fibrillation. In twelve cases the patient lived and was discharged from the hospital. In this group, circulatory arrest occurred in the operating room, the patient's hospital room, the admission ward, the intensive care unit or in a conference room. External defibrillation was required in four of the patients.

In the remaining 20 patients resuscitative techniques were satisfactory as evidenced by the production of a palpable pulse and the commencement of pupillary constriction. Five were satisfactorily resuscitated from the standpoint of defibrillation and restoration of circulation. Two of these patients died within 72 hours from the effects of cerebral hypoxia. Three died from 3 to 48 hours after resuscitation, due to their intrinsic cardiac disease. Fifteen patients could not be resuscitated. In these there was either severe cardiac disease or a prolonged period between circulatory arrest and the onset of resuscitative measures.

The following case reports are illustrative of our experience.

REPORTS OF CASES

CASE 1. A 73-year-old woman with a fractured hip became pulseless during open reduction under general anesthesia. The electrocardiogram showed

CARDIAC ARREST

ARTIFICIAL CIRCULATION

(Closed Chest Cardiac Compression*) IS EFFECTIVE for Cardiac Standstill or Ventricular Fibrillation

IF SUSPICION of CARDIAC ARREST, DO NOT WAIT for confirmation

PATIENT SUPINE—OPERATOR ABOVE . . . For effective compression mount the bed or adjacent chair.

PLACE HANDS ON STERNUM . . . the HEEL of one hand over the lower sternum, the second hand on the first.

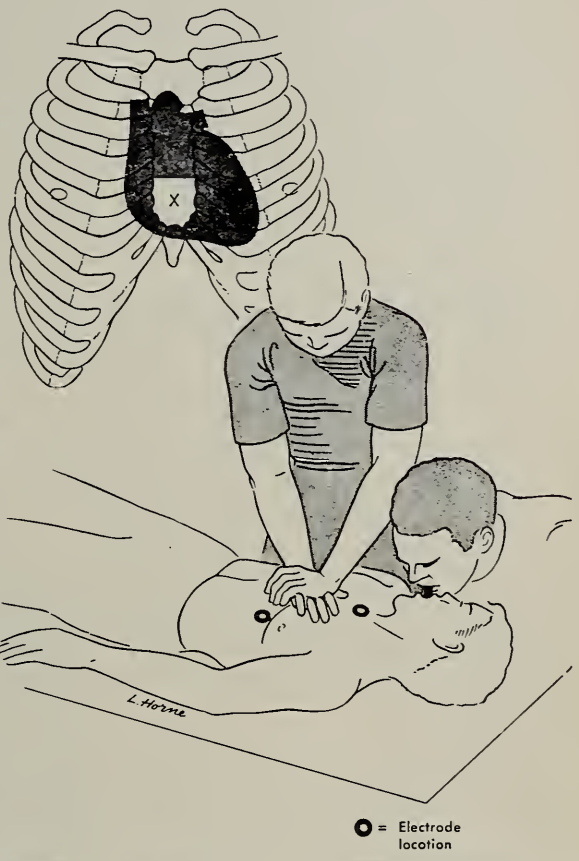
RHYTHMICALLY COMPRESS THE HEART . . . by exerting body weight on lower sternum. MAINTAIN the pressure for ½ second and release. Repeat at rate of 30 to 40 a minute. STERNUM SHOULD MOVE 3 to 5 cm. when pressure is applied. DO NOT exert pressure on rib cage or epigastrium.

SIMULTANEOUSLY ESTABLISH VENTILATION . . . Use mouth to mouth or other available means. Call anesthetist.

FEEL FOR PULSE and OBSERVE PUPILS . . . If circulation is maintained, a pulse will be palpable and pupils will constrict. (Pupils dilate with circulatory arrest.)

POSITION PATIENT in Trendelenburg position . . . (head down) to increase cerebral blood flow and guard against aspiration.

DRUGS . . . Give EPINEPHRINE (I.V. or Intracardiac)—4 cc. of 1:20,000 (dilute 1:1000 to 20 cc.) (Repeat PRN.) Combat acidosis with I.V. SODIUM LACTATE (40 cc. of one Molar) or NaHCO$_3$ solution—5 gms. Repeat at frequent intervals. Other drugs as indicated: CaCl$_2$ (10%), norepinephrine, pronestyl, etc.



For VENTRICULAR FIBRILLATION:

VERIFY, if possible, with the ECG. Secure EXTERNAL defibrillator.

APPLY ELECTRODES FIRMLY, one over the cardiac apex, the other over the sternal notch: see diagram. COAT ELECTRODES with conductive jelly.

APPLY SHOCK—440 V.A.C. at 0.25 second. If ineffective, repeat using 3 shocks in rapid succession. If still fibrillating, give epinephrine and alkali. If necessary apply 880 volt shock (0.25 second).

ALWAYS MAINTAIN CARDIAC COMPRESSION until immediately before defibrillation shock. Only an oxygenated myocardium will defibrillate.

MAINTAIN CARDIAC COMPRESSION AFTER DEFIBRILLATION until a good pulse is maintained. The ECG may appear normal while the heart beat is ineffective.

DRUGS . . . Epinephrine, lactate, and other drugs as above.

CONTINUE RESUSCITATION AS LONG AS THE PATIENT RESPONDS
DO NOT STOP PREMATURELY

*The recommended procedures and drugs are the suggestions of the Committee and do not constitute the only acceptable method. Only trained personnel are qualified to use these procedures.

Figure 2.—Posters with the instructions shown on this page, which are dated April 1961, were prepared by the Cardiac Surgery Committee of the San Francisco Heart Association. [Editor's note: Posters are available from your local Heart Association.]

CLOSED CHEST CARDIAC RESUSCITATION

A Joint Statement by the California Heart Association and the California Medical Association

Closed Chest Cardiac Resuscitation or artificial circulation is a first aid emergency procedure which is most useful as a means of assisting the circulation following cardiac arrest or ventricular fibrillation. To be successful, the technique must be combined with properly administered artificial respiration.

The procedure, although simple, requires more knowledge, skill and training than is generally recognized and it is hoped that the technique can be brought to all physicians as quickly and efficiently as possible through a cooperative effort of the California Medical Association and California Heart Association and their local affiliates. The technique should be taught in conjunction with artificial respiration, stressing individual drill and utilizing teaching aids such as manikins and films to insure correct application of both methods.

Instructions to para-medical groups such as dentists, nurses and emergency rescue squads should be carried out only by physicians thoroughly familiar with the technique as well as with the related problems and limitations. Such teaching programs should be part of a continuing study of this form of resuscitation. For the present it is felt that Closed Chest Cardiac Resuscitation is not a technique which could be usefully taught to the average layman.

All hospitals should have access to equipment (such as electrocardiograms and external defibrillators), materials, and trained personnel necessary for the continuing medical care following the successful use of the emergency technique.

January 19, 1962

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asystole. Intermittent external cardiac compression for two minutes resulted in return of cardiac activity. Asystole occurred four other times during the procedure and was successfully treated each time with external cardiac compression. Sodium bicarbonate and epinephrine were administered intravenously on several occasions. A sixth period of asystole was treated by thoracic compression two hours later in the recovery room and a seventh episode was treated in the same manner by the night nurse in the Intensive Care Unit 14 hours later. The patient recovered from all of these episodes. Electrocardiograms were consistent with a small myocardial infarct. The patient was discharged from the hospital three weeks later.

Case 2. A 73-year-old man was admitted to the hospital with a diagnosis of pulmonary edema. Ventricular fibrillation occurred while an electrocardiogram was being taken. Closed-chest compression was instituted and defibrillation was done three minutes later. Ventricular fibrillation recurred and required four additional shocks of 440 volts at 0.25 second. A small first-degree burn occurred at the site of the electrode application. The patient recovered and was discharged from the hospital.

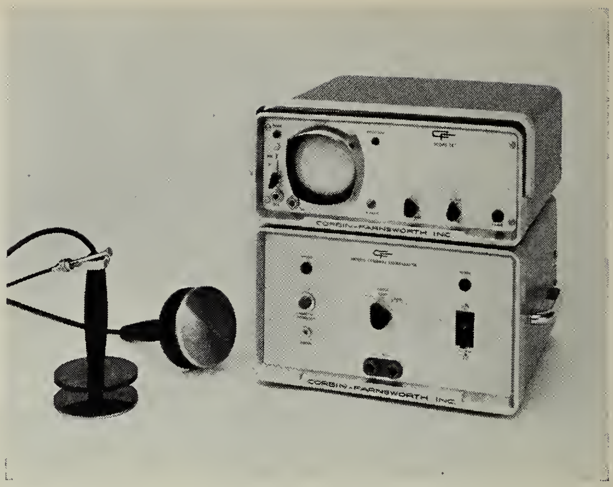

Figure 3.—External defibrillator with electrode switch on electrodes and monitoring oscilloscope. Electrodes to be placed at points shown in Figure 2.

Case 3. Asystole developed during an operation for retinal detachment in a 65-year-old man. Closed chest cardiac compression resulted in prompt restoration of cardiac action. Spontaneous respiration did not resume for six hours. The patient subsequently had an uneventful recovery and was discharged from the hospital.

Case 4. Ventricular fibrillation developed suddenly in a 42-year-old hospital employee while he was attending a conference. External cardiac compression and artificial respiration were immediately instituted by nurses at the scene. Fifteen minutes later, external defibrillation was effected. Electrocardiograms were consistent with a small anterior myocardial infarct. The patient had an uneventful recovery and was discharged from the hospital three weeks later.

DISCUSSION

Closed-chest cardiac compression has proven to be effective experimentally and clinically in the treatment of circulatory arrest. On the basis of this experience, we now use external cardiac compression routinely as the treatment of choice for circulatory arrest. The details of this technique are given in Figure 2. Thoracotomy and manual compression of the heart are used only in the operating room.

As with any new technique, errors may occur during closed-chest compression. The most common errors have been:

1. Premature discontinuance of resuscitative attempts.
2. Failure to reestablish ventilation.
3. Improper placement of surgeon's hands on the sternum, causing pressure over the ribs and resultant

rib fractures. In some cases the hands were placed over the liver and caused concomitant lacerations or contusions of the liver.

4. Incorrect position of the surgeon. The surgeon must stay above the patient to be able to exert the weight of his body on the sternum.

The most common errors in defibrillation were:

1. Incorrect placement of electrodes. The electrodes must be well coated with conductive jelly and should be held firmly over the jugular notch and cardiac apex.

2. Excessive time lag between massage and defibrillation. Electric shock should immediately follow the discontinuance of cardiac compression.

3. Incorrectly connected defibrillator (Figure 3). To operate properly, the defibrillator requires a large flow of electricity. It is necessary to plug the unit directly into a wall socket or to use an extension cord as thick as the power cable of the defibrillator.

4. Premature discontinuance of cardiac compression after defibrillation. Electrical and mechanical activity of the heart do not necessarily coincide. Compression should not be stopped until the pulse is palpable.

5. Drugs were not used as indicated. Epinephrine and alkali are useful in most cases to improve cardiac contractility and combat acidosis.

ADDENDUM

Since the preparation of this report, cardiac resuscitation has been successfully achieved in 15 additional patients following application of closed chest cardiac compression and external defibrillation when indicated.

Acknowledgment: The valuable assistance that was given by Edwin Thomsen in this study is gratefully acknowledged.

2320 Sutter Street, San Francisco (Rivkin).

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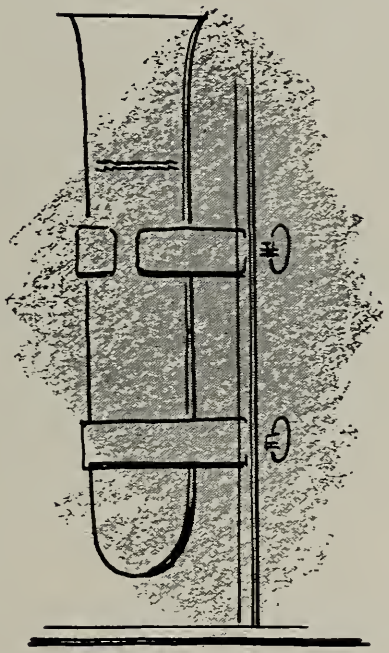

Aggressive Treatment of Spontaneous Pneumothorax

SYDNEY P. HECKER, *M.D.*, ROBERT W. JAMPLIS, *M.D.*, and SIDNEY P. MITCHELL, *M.D.*, Palo Alto

• In analysis of the results of treatment of 48 episodes of spontaneous pneumothorax, aggressive treatment by means of closed intercostal drainage with constant suction was found to achieve the aims of therapy more effectively than conservative measures of bed rest with or without needle aspiration.

In general, full expansion of the lung was more quickly restored, recurrence was of lesser incidence, the period in hospital was shorter and the time away from work was reduced.

MANAGEMENT OF PATIENTS with spontaneous pneumothorax has been actively developed during the past three decades. Today, aggressive treatment is generally accepted for patients with tension pneumothorax, bilateral pneumothorax, large hemothorax or pneumothorax superimposed on impaired pulmonary function.[26] In addition, many clinicians have adopted closed intercostal drainage as the method of choice in the treatment of idiopathic spontaneous pneumothorax of more than minimal degree.* However, the expectation that conservative treatment with bed rest alone is sufficient in most cases is still popular.† To assess the merits of each approach, we reviewed the records of all patients with spontaneous pneumothorax seen at the Palo Alto Medical Clinic between 1950-1959. The results were compared with those of other investigators who have described various therapeutic approaches.

MATERIAL AND METHODS

The records of 39 patients who had been treated for 48 episodes of spontaneous pneumothorax were examined. The ages ranged from 14 to 62 years. Thirty patients (76 per cent) were between 15 and 30 years old. There were 35 males (89 per cent) and four females (11 per cent). The right lung was affected in 26 instances, the left lung in 20. Bilateral pneumothorax (here counted as two episodes) occurred once. These figures correspond closely to those of many observers.[33,35]

The extent of collapse (Table 1) ranged from minimal to 100 per cent with tension. In nine instances the degree of collapse was less than 15 per cent, which was regarded as minimal. Thirty-eight episodes involved a pneumothorax of moderate to large size. Three episodes were not treated, 20 were treated conservatively and 25 were treated aggressively. In three of the aggressively treated cases primary thoracotomy was carried out because of multiple recurrence.

Aggressive treatment is defined as the use of closed intercostal drainage with constant suction whenever more than minimal pneumothorax is present. Although a variety of tubes can be successfully used, we employed the S-shaped, stainless steel cannula described by Clagett. Insertion of this instrument is a simple bedside procedure. Commonly, the second anterior intercostal space is used. After suitable skin cleansing and draping, local anesthesia is obtained by the injection of 1 per cent procaine solution (Figure 1). The skin is then nicked with a sharp scalpel blade. Strong pressure applied to the S cannula at right angles to the chest wall readily introduces it into the pleural space. As it pierces the parietal pleura, the blunt tip of the cannula curves away from the lung.

Although a simple waterseal without suction will be effective in most instances, we routinely employ suction of 15 to 20 cm. (water) to achieve the fastest possible reexpansion. Management of the patient on constant suction is outlined in Table 2.

RESULTS OF THERAPY

The results of therapy in the present series are summarized in Table 3. Three patients received no therapy of any kind. Time required for reexpansion was 30 days for one and 57 days for a second. No followup is available on the third patient.

TABLE 1.—*Data on Degree of Pulmonary Collapse in 48 Episodes of Pneumothorax*

Degree of Collapse	No. of Episodes	Per Cent of Total Cases
Less than 15 per cent	9	19
15 to 50 per cent	14	29
More than 50 per cent	24	50
Not known	1	2

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*References 10, 16, 19, 34.

†References 11, 23, 28, 39.

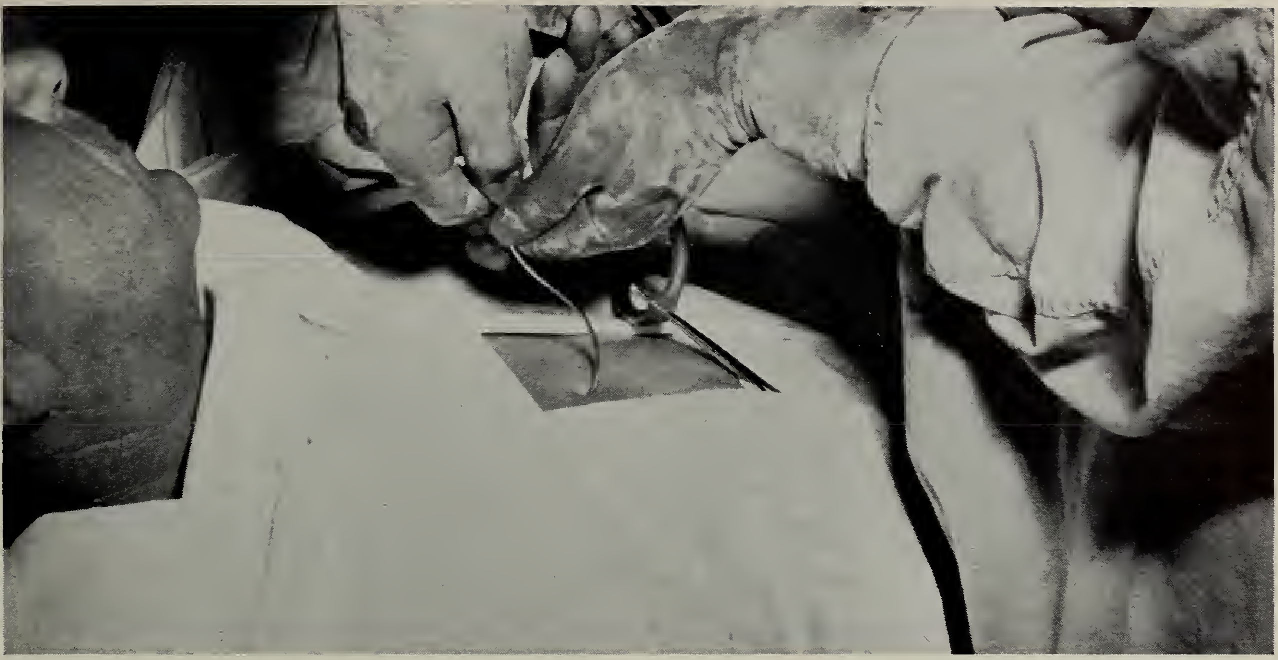

Figure 1.—Strong pressure is applied to the S cannula to introduce it into the pleural space.

Fourteen patients treated with bed rest alone had an average reexpansion time of 23 days, with a range of 7 to 100 days. Eight of these had minimal collapse, and in the majority of these cases the lung was reexpanded within two weeks. In six patients with greater than minimal pneumothorax, reexpansion took more than four weeks, and in general, the larger the initial collapse, the longer the time required for reexpansion. In one instance, a reexpansion after a 50 per cent collapse took over three months.

For six patients treated with bed rest and thoracentesis, reexpansion took from 8 to 56 days, with the average 25 days. In two of these cases collapse was minimal and reexpansion was complete in 10 and 14 days. The other four patients, all of whom had more than 50 per cent collapse, required over four weeks to recover.

For 22 patients with more than minimal collapse treated with closed intercostal drainage and constant suction, the average reexpansion time was three days and the average hospital stay was six days. In a majority of these patients the lung was fully reexpanded in less than one day, but in three cases the response to therapy was slow. In one instance, although prompt reexpansion occurred, the lung collapsed again when the tube was clamped. This sequence was repeated several times, and 16 days elapsed before the leak sealed and the lung remained expanded. In another case, reexpansion occurred promptly, but on the third day a break in the tube leading to the waterseal permitted recurrence which required an additional three days to overcome. Complete failure to produce reexpansion by means of intercostal drainage occurred in one patient, who had chronic pneumothorax. In this case, however, underlying pulmonary fibrosis and emphysema subsequently prevented reexpansion despite decortication twice, segmental resection twice, and thoraco-

TABLE 2.—***Regimen for Management of Spontaneous Pneumothorax with Closed Intercostal Suction***

1. Strict bed rest.
2. Constant suction at 15 cm. (water) for 48 hours.
3. X-ray films (with portable equipment) of inspiration-expiration daily.
4. If the lung expands promptly and remains expanded, the tube is clamped after 48 hours.
5. If the lung is still expanded after the tube has been clamped for 24 hours, remove the "S" cannula, scraping the parietal pleura during withdrawal to promote formation of adhesions.
6. Patient dismissed from the hospital and returns to work.

TABLE 3.—***Results of Therapy***

Treatment	Number of Cases	Average Reexpansion Time (Days)	Range (Days)
No treatment	3	43	30 to 57
Bed rest:			
Less than 15 per cent collapse	8	12	7 to 14
More than 15 per cent collapse	6	>28	12 to 100
Thoracentesis:			
Less than 15 per cent collapse	2	11	8 to 14
More than 50 per cent collapse	4	>35	30 to 56
Closed intercostal drainage with suction—all more than 15 per cent collapse	22	3	1 to 16

plasty. Most of these patients were back at work or school within seven days. In 17 instances (80 per cent) in which no complication occurred, the average time of return to work was eight days.

Analysis of these data indicates that when collapse is minimal (less than 15 per cent) and treatment is a conservative regimen of bed rest with or without needle aspiration, reexpansion of the lung takes an average of two weeks. When the initial collapse is greater than 15 per cent, the average time for reexpansion with conservative therapy is more than four weeks, again regardless of the use of intermittent aspiration. Closed intercostal drainage with constant suction, on the other hand, reduces reexpansion time to an average of three days and also significantly reduces the period of disability.

DISCUSSION

The aims of therapy in spontaneous pneumothorax are to relieve symptoms, prevent complications, minimize disability, minimize economic loss and prevent recurrence. Success in fulfilling these objectives depends largely on the method of treatment (Table 4).

TABLE 4.—*Therapeutic Methods in Spontaneous Pneumothorax*

CONSERVATIVE:
- Bed rest alone.
- Ambulatory, but off work until lung fully reexpanded.
- Thoracentesis and repeated needle aspiration of air.

AGGRESSIVE:
- Effective:
  - Intercostal tube with water-seal drainage with or without constant suction.
- Ineffective:
  - Thoracoscopy and pleurodesis by instillation of irritating substances.

SURGICAL:
- Reserved for complications:
  - Thoracotomy, with definitive procedure dependent upon the underlying disease.

Conservative Treatment

The causes of spontaneous pneumothorax were not well understood until relatively recent times, and therapy has evolved with the changing concepts of the disease. As early as 1826, Devilliers described an episode of pneumothorax resulting from the rupture of an emphysematous bleb. However, the possibility that such ruptures represented the usual pathogenesis of spontaneous pneumothorax was given little attention. In 1856, MacDowell described a patient with pneumothorax complicating pulmonary tuberculosis. This observation led to the theory that underlying tuberculosis was a common cause of spontaneous pneumothorax. Accordingly, prolonged bed rest was generally prescribed, primarily to treat the infection. This rationale persisted for more than half a century, but was shaken in 1932 when Kjaergaard[20] reported that in 50 patients with spontaneous pneumothorax observed over a period of several years, the incidence of tuberculosis was no higher than in the general population. Gradually, as an increasing number of reports appeared confirming the observations of Kjaergaard, it was recognized that the majority of cases of spontaneous pneumothorax were caused by a ruptured bleb.[6,34,40] The introduction of thoracoscopy and the more frequent use of thoracotomy have strengthened this theory. In 1946, Macklin and Macklin[24] described production of pneumothorax by the establishment of pulmonary interstitial emphysema followed by pneumomediastinum followed by rupture of air through the mediastinal pleura. This mechanism probably accounts for fewer than 5 per cent of the cases of spontaneous pneumothorax. Myers[28] reported a negative tuberculin test reaction in 74 of 115 patients with spontaneous pneumothorax. Gradually, the belief that tuberculosis was an underlying factor faded.

TABLE 5.—*Average Reexpansion Time Reported by Various Investigators in Patients Treated with Bed Rest Alone*

Series	Date	Weeks
Kjaergaard[20]	1932	6 to 10
Ornstein & Lercher[31]	1942	1 to 4
Niehaus[29]	1947	5
Daughtry & Chesney[10]	1948	4
Hyde & Hyde[17]	1948	7
Rapport et al.[32]	1953	5
Dubose[12]	1953	2
Briggs et al.[5]	1953	2
Myers[28]	1954	50%>4
Shefts et al.[36]	1954	3
Kircher & Swartzel[19]	1954	4

With the question of tuberculosis disposed of, dissatisfaction with the rationale of bed rest alone began to develop. There is little evidence that inactivity shortens reexpansion time. Several weeks usually elapse before the patient is "cured" (Table 5). With a program of modified bed rest, as employed by Myers,[28] half of the patients observed had reexpansion in a four-week period. Since the patient generally does not return to work while pneumothorax is present, economic considerations alone were enough to make a more rapidly effective treatment desirable.

The objective of treatment then shifted to active removal of the pleural air to hasten recovery. Air removal by "paracentesis thoracis" was first described by Hewson in 1767.[15] At first, aspiration was used solely to relieve tension pneumothorax. More recently repeated aspiration of pleural air has been used in efforts to shorten the course of the illness even when tension is absent. It has proved disappointing (Table 6). The procedure fails because the pleural surfaces are not brought together

TABLE 6.—*Spontaneous Pneumothorax—Average Reexpansion Time with Bed Rest Alone Compared with Repeated Needle Aspiration*

Reported By	Date	Average Reexpansion Time (Days) Bed Rest Alone	Bed Rest and Needle Aspiration
Briggs[5]	1953	34	22
Dubose[12]	1953	15	12
Shefts[36]	1954	21	21
Marrangoni[26]	1955	29	47

and maintained in contact. Efforts to accomplish this with a needle entail risk of laceration of the expanding lung. Thus, since the leak is not sealed, air may promptly reenter the pleural space, and little is gained.

Aggressive Treatment

The underwater seal was described by Noble in 1873.[30] He attached a rubber tubing to an intercostal cannula and placed the other end under water. In recent years, the intercostal tube with waterseal drainage has become the method of therapy preferred by most investigators.[10,16,19,34] It allows safe, rapid withdrawal of all the pleural air. This brings the visceral and parietal pleura into contact and tends to seal the leak. Straight catheters, Foley catheters, stainless steel cannulas and plastic tubes have all been successfully employed to evacuate the air.

When the intrapleural pressure increases during expiration, air is forced from the chest through the tubing and into the water trap, thus evacuating the air from the pleural space. Several hard coughs may expel all the pleural air and completely expand the lung. When air is no longer passing through the torn edge of the bleb, fibrin deposition and healing can begin. Table 7 shows the expansion time reported by various investigators who used this method.

Closed intercostal drainage usually reexpands the lung within three days. Kircher and Swartzel,[19] however, reported an average requirement of 14 days in a group of three patients. Sochocky[37] also had less than average success with the intercostal tube in eight patients, reexpansion taking from 12 to 20 days. In an additional 12 patients, however, he reported full expansion within 24 hours when suction was applied to the intercostal tube and a pleural sclerosive agent was employed.

While there have been differences of opinion on the indications for closed intercostal drainage (Table 8) the safety and effectiveness of this approach has led us to employ it as the method of choice in all patients with more than a minimal collapse. We see no reason to reserve it for a second or third episode or for cases in which the degree of collapse is larger than 50 per cent. To use "conservative" therapy in these cases is, in the words of Campbell and Varco,[7] "scarcely conservative of the patients' comfort, convenience, finances or predisposition to serious complication." The advantages of aggressive treatment are summarized in Table 9.

TABLE 7.—*Spontaneous Pneumothorax—Average Reexpansion Time in Patients Treated with Closed Intercostal Drainage*

Reported By	Date	Time (Days)
Daughtry and Chesney[10]	1948	3
Hughes, Kraeft & Lowry[16]	1951	"minutes"
Kreutzer et al.[32]	1952	14
Rapport et al.[32]	1952	2
Dubose et al.[12]	1953	3.4
Briggs, Walters & Byron[5]	1953	3
Shefts et al.[36]	1954	2
Kircher and Swartzel[19]	1954	14
Marrangoni, Storey & Geib[26]	1955	100% "immediate"
Sochocky[37]	1958	12 to 20 without suction 1 day with 15 to 30 mm. suction

TABLE 8.—*Indications for Closed Intercostal Drainage in Spontaneous Pneumothorax, as Reported by Various Investigators*

Investigator	Date	Indications
Brock[6]	1948	Reserve for chronic or recurrent episodes.
Daughtry & Chesney[10]	1948	Collapse sufficient to allow safe introduction of a trocar.
Hughes, Kraeft & Lowry[16]	1951	Collapse sufficient to allow safe introduction of a trocar.
Rapport et al.[32]	1952	>25% collapse.
Kreutzer et al.[22]	1952	>50% collapse.
Dubose et al.[12]	1953	>25% collapse.
Briggs, Walters & Byron[5]	1953	>50% collapse.
Kircher and Swartzel[19]	1954	>20% collapse.
Briggs and Byron[4]	1955	Minimal collapse.
Rubel et al.[34]	1956	>20% collapse.
Sochocky[37]	1960	Minimal collapse.

TABLE 9.—*Comparison of Conservative and Aggressive Treatment of Spontaneous Pneumothorax*

Aim	Results with Conservative Treatment	Aggressive Treatment
Symptom relief	Variable	Immediate
Complications	Common	Rare
Return to work	Weeks to months	Days
Cost	$500 to $1,000	$200 to $300

Prevention of Recurrence

There is some evidence that closed intercostal drainage is superior to simple bed rest in preventing recurrence. Lindskog and Halasz[23] reported recurrence in 16 of 26 patients treated with bed rest alone, in three of eight treated with needle aspiration and in only four of 29 patients treated with closed intercostal drainage.

In early efforts to prevent recurrence thoracoscopy was employed and attempts were made to promote pleural adhesions by instillation of irritating substances. Numerous agents, including silver nitrate, blood, glucose, talc and, more recently, Kaolin,® have been employed.* Although this method is sometimes successful, the morbidity in terms of fever and severe chest pain is very high, and recurrence despite chemical pleurodesis is not infrequent.[14] Failures occur because the blebs most likely to rupture are usually apical, whereas insufflated substances tend to fall to the diaphragm or enter between the fissures at some distance from the site at which adhesions are desired. In addition, the adhesions are frequently filmy. Occasionally, pulmonary entrapment may ensue and cause impaired function, but this is often transient. With occasional exceptions,[18] these approaches to prevention of recurrence have generally been discarded in favor of thoracotomy, which permits carrying out a definitive procedure.

Surgery

Thoracotomy is generally reserved for the complications of pneumothorax. The indications are as follows:

1. Recurrence:
   Three or more recurrent spontaneous pneumothoraxes (this is the most common indication).
2. Continued leak:
   Repeated failure of the lung to remain expanded when suction is discontinued.
3. Pleural complications:
   - (a) Massive hydrothorax
   - (b) Hemothorax
   - (c) Empyema
   - (d) Captive lung.

Of these, recurrence is the commonest and is reported in approximately 10 to 30 per cent of cases.[8,17,29,31] Three or more recurrences are considered an indication for surgical treatment. Failure to reexpand the lung or to maintain expansion when suction is discontinued requires thoracotomy to close or resect the site of the persistent leak. This was necessary in one of the patients in the present series. Pleural complications including massive hydrothorax, hemothorax, empyema, and peel formation with captive lung are all indications for operation.[3,25,27]

The underlying lesion determines the surgical procedure. If the leak is small and the bleb single, simple closure may be performed. Resection of a wedge, a segment, or a lobe may be necessary depending on the extent of the disease. Decortication is required for captive lung.

Prevention of recurrence can be attempted in a number of ways. Efforts to promote formation of adhesions are usually confined to abrasion of the pleural surfaces with a dry gauze sponge. This has been shown to produce dense adhesions.[2] Parietal pleurectomy has been recommended as an effective method of preventing recurrence without greatly impairing pulmonary function.[13,38] This procedure, however, is occasionally followed by bleeding, and is not clearly superior to the simpler technique of abrasion. A radical approach has been described in an investigation by Baronofsky,[1] who did bilateral thoracotomy in 26 patients with pneumothorax, usually at one operation. In 25 of them blebs were seen in both lungs, and often bilateral resection was done. It is probably safe to assume that such an approach will never be widely used, since the relatively small incidence of contralateral recurrence does not warrant a surgical attack of this magnitude.

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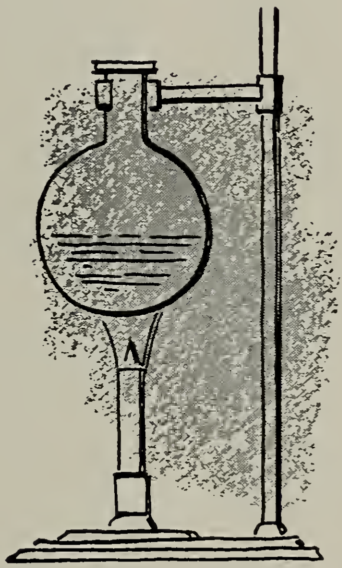

Treatment of Endotoxic Shock

The Dilemma of Vasopressor and Vasodilator Therapy

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• Hemodynamic studies have demonstrated that the fall of blood pressure in shock caused by endotoxin in dogs does not result primarily from dilatation or "vasomotor collapse." Indeed, vasoconstriction is increased and may be excessive. Progression of shock has recently been blamed on such excessive vasoconstriction. For this reason the use of sympathomimetic drugs as vasopressor agents has been challenged and sympatholytic or adrenolytic agents have been recommended.

In the present study, vasopressor and vasodilator drugs were used for the treatment of shock in dogs caused by endotoxin. Vasodilator drugs, when used after the onset of shock, hastened a fatal outcome but vasopressor agents were not detrimental when used in moderate doses.

The effectiveness of the vasopressor agent is not necessarily due to a primary vasoconstrictor action on arteries and arterioles, as previously assumed.

THE TERM *shock* is descriptive of a clinical sequence of events, the physiological causes of which are as yet only partially understood. Shock is most often due to loss of blood or other fluid, through injury or following an operation. Prompt replacement of blood or plasma generally restores normal circulation, but in some patients an "irreversible" state of shock develops in spite of adequate fluid replacement. In other instances shock occurs without previous loss of fluid, as in myocardial infarction, in the course of an acute overwhelming infection, as a hypersensitivity (anaphylactic) reaction or after injury to the nervous system. A fall in arterial blood pressure is a characteristic although not an inevitable manifestation of shock regardless of cause. However, the primary defect of shock is not so much a failure to maintain pressure as it is a failure to maintain flow of blood.

The adequacy of blood circulation depends on three basic components: An effective pump, an adequate volume of fluid and a proper capacity of the container. In cardiogenic shock, the pump is at fault. There is uniform agreement as to the importance of supporting the heart by taking measures to maintain effective coronary circulation. In hypovolemic shock, the need for prompt replacement of fluid is generally recognized. Little agreement exists, however, as to the proper therapy in cases in which shock is due to alterations in the capacity of blood vessels. Included in this group are bacteremic (endotoxic) shock, shock states due to hypersensitivity, neurogenic shock and protracted hypovolemic shock which has become refractory to fluid replacement.

Until recently, the cause of shock in this third group was attributed to "generalized vasomotor collapse," implying that the blood circulated sluggishly in paralyzed, distended vessels. Physiological measurements and microscopic observations of blood vessels *in vivo* during shock have indicated, however, that in most cases quite the opposite is true. In experimental animals it was observed that what occurred was excessive vasomotor activity with decided constriction of the arteries and arterioles.[1,6,11]

Sympathomimetic drugs like norepinephrine (Levophed®) and metaraminol (Aramine®) have gained wide acceptance in the effort to counteract hypotension. With a rising blood pressure the patient's general appearance improves, lethargy often gives way to a more alert state of awareness, the critically reduced urine output may be increased and the pulse adjusts to a slower rate and fuller volume. Thus the manifestations of shock are seemingly reversed by the administration of norepinephrine or metaraminol.

Yet vasopressor amines produce their effect at least in part because of their constrictive action on arterioles, thereby elevating arterial pressure. The possibility arises that the additional constriction of an already narrow vascular bed by means of vasopressor drugs may ultimately be injurious and outweigh the beneficial symptomatic effects of the

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treatment. Perhaps drugs that would produce dilatation of arterioles might provide more rational therapy.

The purpose of this report is to summarize experimental studies on the effect of vasopressor and vasodilator drugs on bacterial shock.

MECHANISM OF ENDOTOXIN SHOCK

When endotoxin from Gram-negative bacteria was injected intravenously into dogs, a sharp decline in arterial pressure was observed within 30 seconds while simultaneously the portal vein pressure was decidedly increased. This rise of portal vein pressure and fall in arterial pressure did not reflect acute cardiac failure, for the pressure in the inferior vena cava and systemic veins remained normal or declined slightly. In experiments performed at the University of Minnesota[8] the cardiac output decreased sharply in close association with the fall of arterial pressure. Moderate elevation of peripheral resistance was observed. This would indicate that shock was not due to vasomotor collapse—indeed, quite the opposite was true: The arterial bed became vasoconstricted, at least during the early period of shock.

In a series of experiments performed by one of us in association with MacLean[4] it was demonstrated in dogs that the fall in blood pressure, the decline in cardiac output and the rise in portal vein pressure were due to pooling of large amounts of blood in the splanchnic venous bed. Initially, blood was sequestrated in the liver and when the liver had filled, pooling extended to the submucosal veins of the intestine. These hemodynamic changes were corroborated at autopsy.

The amount of blood pooled was quantitated in two ways. First a system was devised by which, at laparotomy, the liver or a portion of the intestine could be mobilized and weighed in living dogs without interfering with its blood supply. Studies with this technique showed that with onset of shock initially the weight of the liver and subsequently the weight of the intestine increased decidedly.[5]

An experimental method was then devised in association with MacLean, Visscher, and Spink to provide continuous measurements of the amount of blood returned to the heart. The results of these experiments demonstrated that when portal vein pressure was elevated and intestinal blood volume increased, pronounced reduction of venous return consistently occurred.[8] Thus, the initial fall in cardiac output in dogs was clearly related to the removal of blood from active circulation and its storage in the splanchnic venous bed.

HEMODYNAMIC EFFECTS OF VASOPRESSOR AGENT

Experiments were then carried out to determine the effect of metaraminol on the pooling of blood. When metaraminol was administered, the previously stagnant blood in the splanchnic bed was mobilized, thereby increasing venous return and cardiac output. This effect of the vasopressor agent was observed after injection of doses which produced only minimal vasoconstriction.[9] It was concluded that vasopressor agents reverse splanchnic pooling and increase venous return, an effect which directly counteracts the mechanism of endotoxin shock.

VASOPRESSOR AND VASODILATOR THERAPY

The possibility still existed that arteriolar spasm and capillary injury occurring during the later stages of shock might actually be intensified by the use of metaraminol. If this were the case, drugs with sympatholytic or adrenergic blocking action would improve survival.

The effects of vasopressor agents, adrenergic blocking agents, and corticosteroid hormones on the outcome of shock produced by endotoxin were recently evaluated by Lillehei and MacLean.[2,3] In their studies on dogs, vasopressor agents were injected *before* or *coincident with* endotoxin, thereby preventing the blood pressure fall caused by the bacterial toxin. Dibenzyline, chlorpromazine and hydrocortisone were administered one-half day to five days before the induction of shock. Under these experimental conditions, vasopressor agents and particularly metaraminol hastened the fatal outcome, whereas adrenergic blocking drugs and corticosteroid hormones protected against the deleterious effects of the endotoxin.

Similar experiments were repeated in our laboratory, except that the therapeutic agent was administered 15 minutes *after* shock had occurred.

Single intravenous injections of dibenzyline (25 mg. per kg. of body weight), phentolamine (Regitine,® 10 mg. per kg.) or prednisolone (Hydeltrasol,® 20 mg. per kg.) were used. Metaraminol was administered by continuous intravenous infusion to maintain mean arterial pressure at a level 20 mm. less than the control value before the onset of shock, and treatment was continued for a period of two hours. Two animals were studied in each experiment. A coin was flipped to determine by chance which animal would be treated, the other animal serving as a simultaneous untreated control.

The vasopressor agent increased slightly the period of survival as well as the number of survivors. The adrenergic blocking agent and sympatholytic drug decreased the survival rate. Combined use of

TABLE 1.—*The Effect of Therapy on Fatality Time and Survival Following Production of Shock With Endotoxin in Dogs*

	Number		Endotoxin mg./kg. of Body Weight	Mean Fatality Time (Hours)		Survivors		Statistical Significance
	Treated	Untreated		Treated	Untreated	Treated	Untreated	
Metaraminol	9	9	3.6	13.6	10.9	0	0	....
Prednisolone	9	9	6.6	13.0	6.6	3	2	p = .02
Prednisolone and metaraminol	9	9	3.5	25.1	14.1	4	2	p = .01
Dibenzyline	5	5	4.2	4.8	11.1	0	0	p = .05
Phentolamine	5	5	3.1	6.8	8.5	1	2	....
Control	....	8	None	....	....	....	8	....

vasopressor agents and corticosteroids provided the best survival data (Table 1). The usual severe reduction of urine output was prevented and the fall in pH of blood, which is due to accumulation of lactic acid and other acid metabolites during shock, also was considerably reduced.

It was concluded from these experiments that in dogs, although *pretreatment* with adrenergic blocking drugs may protect against the lethal effects of endotoxin, the adrenergic blocking agent and sympatholytic drugs are not necessarily beneficial if given after onset of shock. On the other hand, judicious use of a vasopressor amine, especially in conjunction with a corticosteroid hormone, may promote reversal of the state of shock and favor survival.[10]

COMMENT

The hazards of the therapeutic use of vasoconstrictor drugs have been emphasized by observers who believe that elevation in blood pressure is of little aid if it is brought about by vasoconstriction alone. Increased arterial pressure favors the flow of blood to coronary and cerebral vascular beds and may produce symptomatic improvement; the supply to other tissues, however, may be disproportionately decreased and the overall effect may be only transiently beneficial.

No direct clinical implication should be made from our experimental observations in dogs. There is no evidence that the hemodynamic disturbances that account for shock in dogs are similar to those occurring in man. However, these studies are significant in that they do not support conclusions based on other studies with dogs in which the dogs were treated *before* the onset of shock. Pretreatment with vasopressor agents was detrimental and sympatholytic drugs were beneficial. When treatment was begun *after* the onset of endotoxin shock, however, the sympatholytic drug decreased survival, and judicious use of vasopressor agent was clearly not detrimental.

We have also demonstrated in studies in patients, not reported here, that the sympathomimetic drugs increase cardiac output in bacterial shock. Beneficial effects may not be primarily due to vasoconstriction, but rather a consequence of increased blood flow, possibly produced by constriction of venous pools.[9]

It is also well known that these drugs exert a favorable influence on the heart itself. Drugs like norepinephrine and metaraminol increase myocardial contractility. Such a cardiotonic effect takes place independently of any beneficial action resulting from increased pressure in the coronary artery.[7] In patients in whom a cardiogenic factor accounts for progression of shock, which may be the case in most instances of protracted shock, this is an additional therapeutic consideration.

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The Thorny Child

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• Too many physicians—and parents—hide behind the overworked excuse that "Johnny is just going through a stage." If the remark is inaccurate a great disservice can be done to both mother and child, and ultimately to society. The well oriented physician would no more permit a young mother to unwittingly feel "guilty" because her two-year-old "little stinker" behaves like a two-year-old little stinker than he would casually reassure when a ten-year-old behaves as though he were two.

Actually much of the unpleasant behavior of children is quite normal. If physicians would help all young mothers to recognize this without dismissing abnormal behavior, it would do much to avert the overwhelming sense of inadequacy that so many modern young mothers feel—especially with their first baby. If they can be made comfortable with their first the others usually come easily. Many physicians who care for children are not trained in the rudiments of developmental behavior. By means of a simple outline and drawing of "the thorny child" even the least of the experts can better understand some of the chronologic variations in developmental behavior.

Because all normal children grow, develop and, at times, misbehave, it is safe to predict that there will always be a demand for pediatric counseling. Just who will provide such counseling in the future is not so clear. During the past 30 years, pediatrics has achieved the status of a major division of clinical medicine. It is paradoxical that concurrent with this development there should be an increasing tendency for mothers to turn to other sources (including the lay press) for guidance in the understanding and management of their children. Why? Could it be that young mothers, who instinctively look to their physician for help, fail to find there the degree of support they seek?

Pediatrics (human developmental biology) exists as an age-group specialty because the factors that control growth and development also govern behavior patterns and alter the manifestations of disease. It follows that the pediatric specialist should be distinguished by expert knowledge of these factors. Other physicians in every specialty can and do treat diseases (which they may understand very well) in children (about whom they may know very little). We pediatricians must not surrender our role of authority in those areas that justify our existence as a specialty. Pediatrics and the pediatrician of the future depend not only on positive reactions to these challenges but on the philosophy of our medical educators. At present a majority of the children in this country who get any pediatric supervision at all get it from physicians whose formal study of human growth has not gone beyond a freshman course in embryology. This situation presents a problem in undergraduate medical education.

At the resident level, training in pediatrics is overwhelmingly oriented to sick child care. It is possible to become a pediatric specialist with very little background of study of normal growth and development. This, at least partially, explains why young pediatricians complain that they have not been appropriately prepared for the actualities of practice. Here lies a problem in postgraduate education.

Regardless of training, it is always difficult in practice to provide the time that the anxious mother requires or demands. This is a challenge in practical medical economics, one that calls for dedicated, intelligent planning of streamlined office technique.

The pediatrician does not have to use the time-consuming techniques of the psychopathologist, but he does need to apply a practical working knowledge of the patterns of normal developmental behavior and in relatively simple ways. He should be particularly sympathetic to the problems of the new mother with her first baby, a time that maternal insecurity is maximal. The objective is to enable her to enjoy her baby and to guide her in the understanding of normal problems as he grows and develops. Surely, no mother should be permitted to feel that she is a bad mother because her two-year-old "little stinker" behaves like a normal, two-year-old little stinker. On the other hand, when a ten-year-old child throws a tantrum, he is behaving like a two-year-old. Such behavior should not be permitted to thrive behind the lame and overworked excuse that "Johnny is just going through a stage."

Several dividends are to be realized from giving good counsel and moral support to the mother with her first child. If the support is successful, it is quite unlikely that she will have any serious anxieties concerning subsequent children. (Ultimately, this

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Chairman's Address: Presented before the Section on Pediatrics at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

could lead to happier pediatricians.) Furthermore, secure, happy mothers have secure, happy babies who are not likely candidates for the child guidance clinics. In effect, this is elementary preventive psychiatry and should be a conscious responsibility of every pediatrician.

The more mature mothers of our current generation of adolescents are worthy of special attention and sympathetic support, too. Many were reared as children in an era characterized by rigid and even harsh discipline. At about the time they first became parents, they were exposed to radically different concepts of child rearing presented under such labels as "permissiveness," "self-discipline," "progressive education," and "uninhibited growth and development." Today, many of their teenaged children are uninhibited juveniles who were never exposed to discipline nor taught to respect authority. Not only they but their parents are on the spot. Some of the same "experts" who advised these parents to avoid spanking, and warned them certainly never, never to strike a child in anger (whoever spanked a child in happiness?) now point an accusing finger and say, "You, Mother, are a bad parent who is going to be held strictly accountable."

We cannot help mothers by stimulating their sense of guilt. Actually, our entire culture is responsible for the results of this great experiment in permissiveness. Although we have paid a price, it has not been without recompense. Many lessons have been learned, and we appear to be adopting a sensible middle-of-the-road approach that encourages reasonable discipline and respect for authority.

Assuming that practicing pediatricians will take a more active role in helping mothers manage their children, how can those who have had little background training better prepare themselves to meet the challenge? While there are many fine books on the subject of growth and development, most physicians are discouraged by a tedious mass of detail. I have distilled the fundamental points described by most authors into a simple outline, with which even the least knowledgeable can help mothers become more comfortable with the normal but unpleasant behavior that is characteristic for children at certain age periods.

The chronologic variations have been illustrated with a drawing in which a rose depicts "The Thorny Child" (Figure 1). The thorns on the stem represent the normal problem (thorny) years. The problems tend to reach a peak every other year. Typically, these are the even years during the first eight years—2, 4, 6, 8—then the odd years from nine through 15—9, 11, 13, 15. It is important that we do not overemphasize the thorns or underemphasize the periods between that represent pleasant interludes of development—but, then, parents rarely complain about the latter. At 16, the buds of maturity are evident and are followed by the fully matured rose which is hopefully expected by age 18 to 21.

Parents should be taught that, when considering the typical behavior of a particular child of a particular age, not all children behave "that way" all the time, nor can they assume that the unpleasant aspects characteristic of a specific age are necessarily approved or that nothing should be done about them. Children learn by patient, repetitious guidance and discipline. Parents usually must learn to cope with unacceptable behavior before children can develop acceptable deportment.

The following paragraphs briefly outline the age periods characterized by unpleasant child behavior.

At 3 to 12 weeks of age, infant colic can be exceedingly disrupting to a home that had anticipated a charming, happy baby. This usually, but not always, occurs in first-born male infants. It is characterized by intermittent episodes of screaming. Such episodes occur more frequently at night. Except that it is related to factors in the growth and maturation of the baby who is in a stressful environment, we really know little about colic of this kind. Although most parents just have to live through this period, a sympathetic physician can help immeasurably.

At 18 to 30 months, the child enters a negativistic period in which he enjoys doing "the opposite." He is constantly on the move; he bangs his head, moves furniture; and he hears "No! No!" so much he thinks his name is "No, No Johnny." At the same time, his own favorite word is "No." This period of "disequilibrium" reaches a peak at two and a half years—the "little stinker," the "terrible two," or the "imperial age." The child is dictatorial, domineering and demanding. He throws a tantrum if he doesn't get what he wants. He balks at anything new and insists on the same stories each night.

Management of the "little stinker" can be difficult, but some things help. Leave his food on the tray without comment, and compliment him if he has eaten. This is a peak period for accidents; make it physically impossible for him to get into danger. "Working around" him is better than a head-on clash. Simplify all directions and discussions. Never ask for a decision; but use invitational words such as "let's" or "how about it"; or ask questions: "Where did it go?" or "How can we do this?" This is a period in which infant autocracy and maternal autocracy can clash in the beginning of a war that can lead to permanent problems of feeding and behavior. Parental patience and a sense of humor are essential.

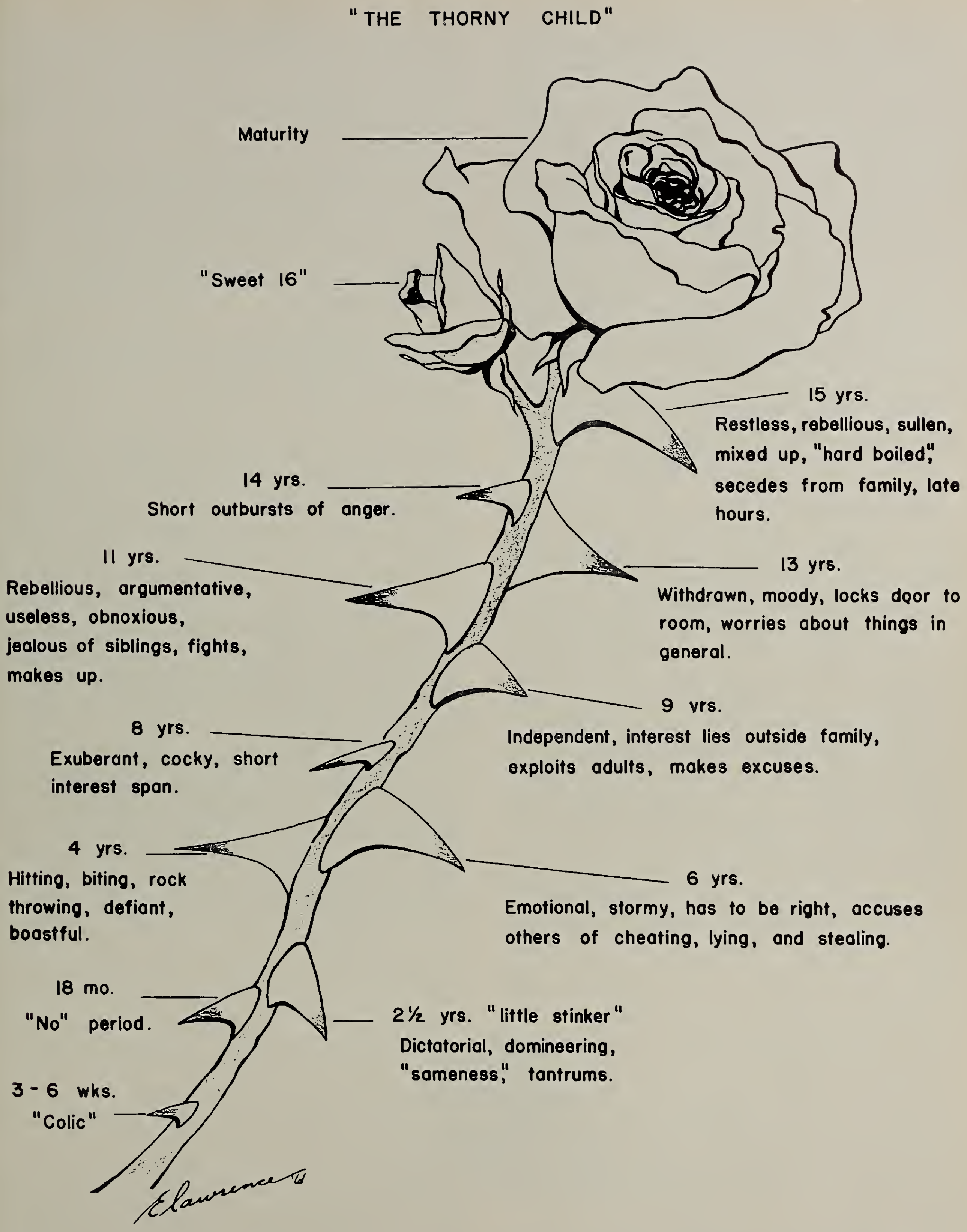
"THE THORNY CHILD"
Maturity
"Sweet 16"
15 yrs.
Restless, rebellious, sullen, mixed up, "hard boiled," secedes from family, late hours.
14 yrs.
Short outbursts of anger.
11 yrs.
Rebellious, argumentative, useless, obnoxious, jealous of siblings, fights, makes up.
13 yrs.
Withdrawn, moody, locks door to room, worries about things in general.
9 yrs.
Independent, interest lies outside family, exploits adults, makes excuses.
8 yrs.
Exuberant, cocky, short interest span.
4 yrs.
Hitting, biting, rock throwing, defiant, boastful.
6 yrs.
Emotional, stormy, has to be right, accuses others of cheating, lying, and stealing.
18 mo.
"No" period.
2½ yrs. "little stinker"
Dictatorial, domineering, "sameness," tantrums.
3 - 6 wks.
"Colic"
E Lawrence

Figure 1

Surprisingly, the 3-year-old learns to say "yes" as easily as "no." At three and a half, because he is awkward, he constantly falls and stumbles—hence is somewhat insecure and has a fear of falling. By and large, three is a pleasant contrast to two; but whining may be an unpleasant characteristic that indicates a need for more attention at times.

The 4-year-old presents one of the difficult ages with behavior characterized by hitting, biting, throwing rocks, breaking toys and running away. He alternates laughter with rage and frequently shocks his mother with very bad language. He is not cowed by maternal threats of punishment but is defiant, swaggering and boastful. He may not distinguish between facts and fiction and frequently finds the latter more interesting. Because he is out of bounds in all directions, the *management* of the 4-year-old is dependent on firm discipline: Limits must be set; lines drawn and adhered to.

Five years is a good age, as parents observe with a sigh; but it doesn't last.

The 6-year-old period is stormy. At that age a child is emotional and in constant conflict. It is a rigid, negative, demanding, unadaptable age. It is not unusual for the 6-year-old to threaten, "I'll kill you," or to declare, "I hate you," and only a short time later hug you and say, "I love you." Mother has ceased to be the center of his world. He has a constant drive for independence—he literally dares you to "try and make me." At six years, fighting is natural; music lessons are not. A child at that age has to be right; he has to win, and he must be praised. Six years is an age when a child is most likely to cheat and steal; and at that age he often accuses others of cheating.

Hints on management: Awareness that the 6-year-old is having a difficult time is fundamental. He may not be ready for starting school (especially if a boy). The parents should try to avoid unhappy events. The 6-year-old usually gets along much better with his father than his mother, so Father can often step in and save face for Mom.

The 7-year-old is much better, but he has good and bad days. He likes to be alone and always hears just what he wants to hear. He likes television and needs help to "stop." He dislikes being interrupted and protects his things from other children. A 7-year-old is very imaginative. Some think he is a pathologic liar or "nuts" so don't take him seriously.

The 8-year-old is exuberant, expansive, cocky, talks with his mouth full of food and overestimates his ability. He tackles things with eagerness but rarely completes them, or he may get upset over failure; but then he will go right on and start something new tomorrow.

Hints on management: Protect him from doing too much or impossible tasks and avoid excessive criticism when he fails. When he boasts, say, "That's a good story—what really happened?" He likes to work for cash and wants hints rather than detailed directions.

The 9-year-old is more interested in friends than family and tends to withdraw from the family circle. He is quite independent and resists bossing. He becomes expert in exploiting adults when he wants something. He worries about failure in school and may give neurotic excuses to stay home or get out of work and practice.

Hints on management: Don't impose yourself on a 9-year-old; he will rebel if given too many orders. He responds better if treated as if he were more mature.

Ten years is one of the "nicest ages." Obeying of family rules comes easily and naturally. A child at that age actually trys to be good. To him, the parents are law, but he is flexible and doesn't take things too seriously. (Not until 16 is the child again so comfortable and easy to manage, and never again will parents be so completely accepted.)

Comment: This is an age when children like to spend time with fathers; and *busy* fathers should take advantage of this instead of making the mistake of waiting until the child is "more interesting and a little older," for by then the children will not have time for the fathers.

The 11-year-old is a rude, argumentative bundle of energy, who blames others, holds grudges and is generally obnoxious, disturbing and useless around the house. Parents wonder what happened to the wonderful 10-year-old. Yet, away from home this boor can behave divinely! The 11-year-old tries to rebel from home, school and church. He is jealous of his brothers and sisters, and at no other age does he get along so poorly with siblings. It isn't unusual for the 11-year-old to do things just to spite Mother. He alibis about chores, may swear, and always seems to be in the refrigerator. He fights for his bedtime rights by quoting the privileges of "other kids." He wants to have the radio on all the time, preferably loud and preferably rock and roll. Boys get into fights and then make up quickly. Girls just get mad and then make up. Boys cheat more; but at 11, girls may steal. The 11-year-old girl is acutely aware of her budding breasts. She has frequent personal checks before going to bed—some girls are embarrassed enough to hunch shoulders in an attempt to hide their development. Girls, at 11, for the last time think boys are pests. Girls now want clothes; and boys want money.

Hints on management: Keep demands few, *but be firm.*

The 12-year-old is enthusiastic (loves everything), likes to arrange things for his own activities, daydreams; and even the boys like to help cook. Girls usually are interested in boys but not vice versa. The 12-year-old girl is maturing rapidly—gets her first bra and may menstruate. If she does, she may ask mother not to tell dad, then will go right out and tell her friends. Boys begin to experience erections and night dreams. They seek sex information; but, surprisingly, if a boy goes to a parent at all, it is usually to his mother; more often, he gets misinformation from playmates or he does the best he can with a dictionary.

The 13-year-old has lost his enthusiasm—he is withdrawn and moody. He goes to his room and locks the door. He is actually mulling things over. He worries about popularity, school, money and the future. His parents worry and feel hurt because he no longer confides. *The answer; let him alone.* Girls will constantly criticize Mother at home but (relax, Mother) not elsewhere. The 13-year-old boy is concerned about changes in his voice and, perhaps, about breast enlargement.

The 14-year-old is friendly, joyous, straightforward and likes to talk things over, but just for fun will make it an argument. He gets angry, but the outbursts are short. Boys like to fool around with cars and will "bug" the parents about wanting to drive. Girls spend their allowance on records, clothes and books. The 14-year-old lives on the telephone. If dad is a professional man, a second line may be essential. Fourteen is loud, and groups of fourteeners are unbelievably noisy.

At 15, there is a terrible "relapse" into unpleasant actions, marked by sullen, restless, complex behavior that is exasperating. The 15-year-old is a mixed-up adolescent. Although very self-critical, he puts up a defensive front of being "hard boiled" or "tough." At this age, he is furthest away from parents—and may even secede from the family circle. He may enter the house and go directly to his room without a greeting, or he may sit in the same room with parents without noting them at all. He likes to be up late and preferably out of the house. He needs work but works better for others than for parents. Necking is uppermost in the 15-year-old girl's mind, but boys tend to think more of their future and business—although they are not averse to a little "smooching" or, in modern teenage vernacular, "making out."

Sixteen—"Sweet 16": At last! Sixteeners are usually happy, friendly, good tempered, self-assured, and realize that Mom and Dad have finally learned something in the past few months. Thorny problems occur but they are handled in a more mature way.

It is important to remember that these stages of behavior may appear earlier or later than in the typical patterns presented here. Actually, most children will display a mixture of patterns, at times temporarily reverting to behavior typical of a preceding period or of a period yet to be reached. Persistently abnormal behavior requires evaluation and may signal the need for consultation with someone who is an expert in the field.

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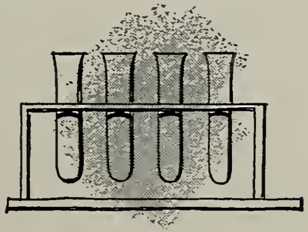

Postoperative Esophageal Complications

Prevention and Treatment

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• Postoperative esophagitis and stricture formation may be more serious than the disease for which operation was done.

The best treatment is prevention by avoiding use of a nasogastric tube if possible. If it has to be used, the tube should have a small lumen and be removed as soon as possible.

When surgical operation is necessary, the cardioesophageal junction should not be sacrificed unless it is absolutely necessary to do so.

Conservative treatment if begun early can minimize or prevent the development of esophagitis and subsequent stricture formation.

POSTOPERATIVE ESOPHAGEAL complications such as peptic esophagitis, ulceration, hemorrhage, erosion and stricture formation are serious conditions which may not be recognized early unless the physician is aware of their possible occurrence. The most frequent causes of these complications are the use of the nasogastric tube and any surgical procedure that alters the normal cardioesophageal junction.

Substernal burning pain, dysphagia, vomiting and occasionally hemorrhage, are symptoms indicating that peptic esophagitis may have developed. If it has, treatment must be begun promptly to avoid irreversible organic changes such as stricture formation.

DIAGNOSIS

Although the patient's symptoms may direct the physician's attention to the esophagus, a definitive diagnosis can usually be made only by direct visualization of the esophageal mucosa through an esophagoscope. The use of the Eder-Hufford esophagoscope[3] with a flexible obturator enables one to make the examination with relative ease and safety. In esophagitis, the esophageal mucosa is seen to be hyperemic, edematous and friable; it may be eroded and there may be superficial ulcerations. Occasionally, one can observe excessive reflux of gastric juice in the lower portion of the esophagus. Early stricture formation appears as localized narrowing of the esophageal lumen, which may prevent passage of the esophagoscope. Biopsy is usually not indicated unless there is question of malignant disease. Cytologic examination of esophageal aspirate is a valuable technique in the detection of malignant disease, particularly if the malignant lesion is distal to a stricture which prevents obtaining an adequate specimen for biopsy during esophagoscopy.

Roentgenologic examination of the esophagus aids in determining the location and extent of the mucosal involvement and provides further information for the differentiation of benign and malignant lesions. Serial studies enable one to obtain permanent objective evidence in following the course of the disease and assessing therapy.

PREVENTION

It is important to recognize that esophagitis and other complications, such as stricture formation, can occur following operation of any kind if a nasogastric tube is used postoperatively. Esophagitis may result from direct irritation by the tube, from reflex vomiting or from persistent regurgitation of acid pepsin gastric juice.[6] Regurgitation may occur because the tube has a tendency to keep the esophageal cardia patent. Since a tube with a large lumen is more likely to produce this condition than is a smaller one, it is important to use the smallest tube practicable. In any case the tube should be removed as soon as possible to keep irritation to a minimum.

It is now recognized that radical surgical operations on the esophagus may produce conditions more serious and more difficult to treat than the original disease, especially if the operation is done because of a benign lesion. Any surgical procedure that interferes with the normal anatomic relationship of the distal esophagus and its contiguous structures[2,9] may lead to development of regurgitative esophagitis and secondary stricture formation. It is not well recognized that there is a surgical procedure available for the treatment of esophagitis[1,4,5,10] that does not involve the esophagus directly. Gastroenterostomy or pyloroplasty and vagotomy (which decreases the gastric acidity) bring about a condition in which the esophagus can recover from inflammation and stricture without disturbing the normal esophageal structures. If a stricture is already present it may be manually dilated sufficiently at the time of operation to prevent further progression.

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In the case of a disease such as carcinoma involving the cardioesophageal junction, which because of its malignant process necessitates removal of the upper stomach and distal esophagus, it is impossible to maintain the normal anatomic relationships. It is important, however, that an adequate gastric-drainage procedure be incorporated in the surgical method in order to minimize esophageal reflux.

TREATMENT

The conservative treatment of esophagitis consists of removing the source of irritation as soon as possible, elevating the head of the bed, restricting fluids at meals, neutralizing acid-pepsin juice, and using a "coating agent." At first methyl cellulose, 15 cc. before and after meals, was used as a coating agent and was fairly effective. Later, a combination of a local anesthetic agent and methyl cellulose was used.[8] More recently, it has been found that an emulsion containing approximately 30 per cent methyl polysiloxane is safe and effective, and its coating action appears to be sustained for a long time when taken in amounts of 4 cc. before and after meals.[7] If there is any indication of stricture formation, the passage of bougies of graduated sizes up to at least 40 (French) must be begun early.

In some severe cases, it may be necessary to resort to operation. The basic principle is to reduce gastric acidity either by partial gastrectomy or vagotomy and gastrojejunostomy or pyloroplasty. If there is stenosis, the esophagus may be dilated digitally at the time of operation. This should be followed by postoperative dilatation of the esophagus by means of metal bougies of graduated sizes for a period of six to eight weeks.

Case 1. Dysphagia and substernal pain developed in a 51-year-old woman following cholecystectomy and the postoperative use of a nasogastric tube. Three weeks after the operation an esophagoscopic examination showed the mucosa of the esophagus to be diffusely inflamed. An exudate was apparent, and the upper third of the esophagus bled when wiped with a cotton swab. The examination was discontinued immediately after the swabbing because of a severe diffuse spasm of the middle third of the esophagus. The roentgenograms of the esophagus taken at this time (Figure 1) showed a coarse mucosal irregularity in the distal half of the esophagus. The patient was instructed to follow a medical program which consisted of elevation of the head of her bed 6 to 8 inches, a bland diet, taking 15 cc. of 2 per cent lidocaine (Xylocaine® viscous) before and after meals, one tablet of Donnatal®* four times a day before meals and at bedtime, and 30 cc. of a liquid preparation of dihydroxy aluminum aminoacetate after meals. While following this regimen, the patient improved significantly and rapidly. Within three days she was able to swallow liquids and soft foods; at the end of a month she had only slight dysphagia. A roentgenologic examination four weeks after esophagitis was diagnosed showed a normal esophagus (Figure 1).

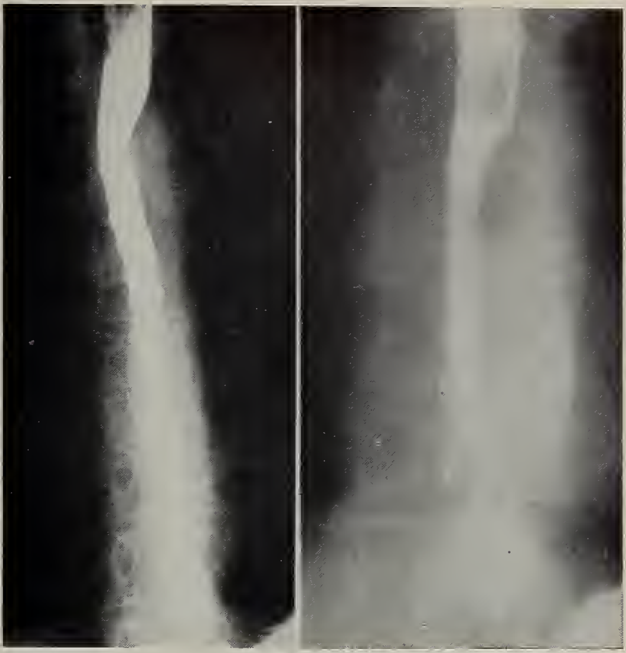
Figure 1.—*Left:* Roentgenogram of the esophagus in a patient with postoperative esophagitis. A coarse mucosal irregularity in the distal half of the esophagus is visible. *Right:* Four weeks later the mucosa appeared to be normal.

University of California Medical Center, San Francisco 22 (Rider).

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*Each tablet contains hyoscyamine sulphate 0.1037 mg.; atropine sulfate 0.0194 mg.; hyoscine hydrobromide 0.0065 mg.; phenobarbital 0.016 gm.

Reflections on Hysterectomy

JOHN C. McDERMOTT, *M.D.*, Los Angeles

• Except for childbearing, the uterus is not necessary in the body economy. It is subject to many troubles, many of which interfere with the patient's enjoyment of life, and some endanger life seriously. In view of great improvement in mortality and morbidity in the operation of hysterectomy, indications should be extended for this operation, taking this lessened danger into account.

In CONSIDERING the many changes in medical knowledge and skills that have occurred since the time of my medical school graduation just thirty years ago, the thought came to mind that we frequently fail to consider the bearing of all these changes on some one particular problem. I would like to speak on the subject of hysterectomy and the effect that these changes should have on it.

Throughout the ages the uterus has been given a very special status because of its function in the beginning of all human life, and this led, at one time, to attributing to it properties that we now know it does not possess. I, among others, was told in medical school some thirty years ago that menstrual blood would cause flowers to wither, the implication (or at least the inference) being that menstruation was a process of eliminating poisons from the body. I must confess my failure as a true scientist in that I did not test the validity of this statement. While the medical profession no longer supports such a view, reverberations from it still exist among women who regard a profuse menstrual bleeding as a "good period." While this misconception among the laity can be eliminated by education, a similar one, which still exists among some physicians, is that the hormones produced by the ovaries require the uterus for their proper metabolism. Another function suggested many years ago was that the uterus produced a hormone itself. All experimental efforts to support this suggestion have failed. Thus we come to the one function that the uterus possesses and about which there can be no argument—that of childbearing. It is important to bear in mind that this is its only known useful function.

The uterus has many undesirable attributes. Not the least of these is normal menstruation. That in the common parlance of women it is spoken of as "the curse" is indicative of the average woman's attitude toward it. Beyond mere inconvenience, abnormalities of bleeding are extremely common. Menorrhagia frequently is sufficient to interfere with usual activities. Dysmenorrhea is often incapacitating to a woman and a source of disturbance of family life. Often a woman loses as much as one-seventh of her life away from desired activities for these two reasons. In addition, uterine tumors are very common and they may be worrisome or costly. And finally, uterine cancer; it is the second most common cancer in women over the age of thirty.

Let us now trace the changing concepts and practices in operations involving the uterus as the author knows them in the Los Angeles area. Thirty years ago hysterectomy when done for nonmalignant disease was always subtotal. Some surgeons, giving consideration to the ideas about the desirability of menstruating, would even do fundectomy, deliberately leaving some endometrial tissue. Preservation of the uterus in cases of bilateral salpingectomy for tubal disease gave many a surgeon a satisfying sense that he was conservative. Indeed an essay written by me in 1938 advocating removal of the uterus at such times was regarded as very radical. Because of excessive hazards, total hysterectomy was avoided except in cases of malignant disease. The operative mortality on the gynecological wards at the Los Angeles County General Hospital at that time ran from 2 to 5 per cent—which made for conservatism in advocating operation.

Progress since then has changed this whole picture. Improved knowledge of blood use, general availability of blood, great strides in anesthesia and the development of antibiotics have all been given their share of credit. Less roundly recognized is the better condition of the patient nowadays, due to better diet, early feeding after operation, reduction in the postoperative use of strong sedatives and narcotics, and early ambulation. The most recent development, and one that deserves much credit, is the intensive care unit, in which the patient is specially and knowingly dealt with postoperatively until physiological equilibrium has returned. All these improvements have so reduced the risk that death from hysterectomy is rare; and if death occurs in association with hysterectomy, it usually is not attributable to the operation.

All these changes, however, are in my opinion but satellites of the most important one—the change

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from subtotal to total hysterectomy. The development of satisfactory surgical technique that permits removal of the whole uterus without increasing the mortality or morbidity, that preserves the normal anatomical features of the vagina and does not leave a weakened area at the vaginal vault, means that now hysterectomy succeeds in removing the area of the uterus most susceptible to the development of cancer and thus gives prophylactic value to the operation.

About fifteen years ago a well known teacher of gynecology presented an essay with the central theme that a large number of hysterectomies performed in his state were ill advised, if indeed they were not in the nature of a racket. The attention given to that essay, particularly in newspapers and magazines, was so great that it inspired another essay along the same lines a few years later by a California author. And it, too, was quoted and condensed in lay magazines and achieved great publicity as an effort to save the public from the "knife-happy" medical profession. At the time, raising a voice in protest against either of these essays would have been construed as opposing virtue. The primary premise promoted by these essays, and indeed the one that has received the most support in the past, is that the uterus must be given a very special status among the organs that are not necessary to the preservation of life. While removal of the appendix when the abdomen is opened for other reasons is not only condoned but is urged as good practice, and while a few attacks of tonsillitis are taken as ample justification for tonsillectomy, hysterectomy is deplored unless there is no other method of handling the problem at hand. It is about this special status of the uterus that we must have a change of attitude in view of our changed knowledge and skills.

Except for the childbearing function, the uterus is a dispensable organ. Not only can a woman get along satisfactorily without it, but without it she is free of certain nuisances and dangers. This is not by any means to say that hysterectomy is recommended in all cases where childbearing is no longer a consideration. What is recommended is that hysterectomy is a procedure of choice over myomectomy, suspension and other less definitive pelvic procedures when the childbearing function is no longer a consideration. Furthermore a hysterectomy should be done when menorrhagia or dysmenorrhea is sufficient to interfere with the patient's enjoyment of life and cannot be relieved by simpler measures.

It should be emphasized that hysterectomy is not an operation to do indiscriminately, but it is my hope that the indications for it will be adjusted to take into account the improved operative results and the prophylactic benefits to be obtained—and my further hope that it will not be avoided for mystical and unscientific reasons.

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Tax-Supported Medical Care for California's Children

Where Should It Be Going?

LESLIE CORSA, JR., ***M.D.,*** **and BRUCE JESSUP,** ***M.D.,*** **Berkeley**

• The multiplication of separate governmental agencies providing health services to California's children, the increasing difficulties in staffing tax-supported health agencies and the recent studies of the quality of care under these programs, have all pointed to an urgent need for prompt decisions on certain basic questions about the function of tax-supported medical care for children of dependent families.

Fourteen separate kinds of health services are currently provided through public funds at an annual cost to California taxpayers of $52,000,000. These funds underwrite an uncoordinated, fragmented, patchwork quilt of medical care for some 500,000 children. Coordination and integration of these services through "one door" with uniform eligibility requirements and maximum utilization of private physicians' services that meet appropriate standards is needed now. California physicians have an urgent responsibility to provide leadership in the development of more effective and more economical organization and distribution of higher quality medical care services for California's children dependent on public support.

RECENT EVENTS in California have dramatized how urgent the need is to face and decide certain basic questions about the future of tax-supported medical care for children now.

These questions turn upon a thesis that can be summed up as follows:

1. There is general agreement that today in California our goal is to make available comprehensive medical care of high quality to all children.

2. Among all children special attention is given to those whose families, because of economic circumstances, cannot themselves afford to pay the costs of medical care. They now rely in part or in full upon tax funds for such care and will continue to in the foreseeable future.

3. Medical care for California's children provided from tax funds today is a confusing, fragmented jumble involving many agencies. Nowhere is it comprehensive and rarely is there reasonable consistency or coordination among the fragments.

4. Looking forward in California to many more children, relatively fewer health personnel and increasingly complex and costly medical care, we must move quickly toward rational and effective organization based upon the "one-door"[1] principle and upon maximum utilization by tax-supported programs of private health personnel and facilities that meet necessary standards.

Point One needs no further amplification. Comprehensive health care of high quality is now considered a basic human right and society through many media, including government, is moving to make it readily available to every one, especially the young and the old.

The role of government in the provision of medical care to special groups of children does need elaboration since these facts are neither easily obtained nor widely known. Table 1 lists the principal tax-supported medical care programs for persons under 18 years of age in California, showing the agencies administering them, the kinds of service provided, the kinds of children eligible, the number of children served each year and the annual amount and sources of tax dollars. It includes 14 kinds of health service provided to over half a million California children a year by at least seven different "patient-contact" agencies at an annual cost in federal, state and local taxes of more than $52,000,000. This represents about 20 per cent of the cost of all personal health services for all California children.

Most of these services have been tax-supported for a long time and have not increased relative to population during the last ten years. For example (Chart 1) the per cent of infants born in county hospitals has remained constant at close to 12, the per cent of infants seen at least once in child health conferences has remained constant at close to 20, and the per cent of children under 21 receiving Crippled Children's Services has remained constant at close to 1. However, three significant new programs now costing over $9,000,000 a year were born in the last five years—Public Assistance Medical Care (wel-

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California State Department of Public Health, Division of Preventive Medical Services, Bureau of Maternal and Child Health, 2151 Berkeley Way, Berkeley 4, California.

Presented before the Section on Public Health at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

TABLE 1.—*Principal Tax-Supported Medical Care for Children (Under 18), California, 1959*

	Services			No. of Persons Served	Estimated Cost	
Agency	Kinds	Provided By	Eligible Group		Million $	Tax Sources
Local Adm.—						
County hospital	Newborn	Pub.	Med. indigent	44,724	2.	County
	Premature	Pub.	Med. indigent	4,756	1.4	County
	Pediatric—In pt.	Pub.	Med. indigent	36,000	11.0	County
	Pediatric—Out pt.	Pub.	Med. indigent	?	1.9	County
Health	Child clinics	Pub.	Public, age specific	188,842	1.0	Local-State-Fed.
	Home visits	Pub.	Public	129,844	.5	Local-State-Fed.
	CCS	F/S	Med. indigent	58,042*	6.6	County-State-Fed.
Mental health	Psychiatric	Mixed	Med. indigent	?	1.3	County-State
Public schools	Preventive	Pub.	Public school children	?	10.0	Local-State
Welfare	Home and office	F/S	Aid-to-Needy-Children	200,000	6.0	State-Fed.
State Adm.—						
Mental hygiene	Hospitals for retarded	Pub.	Severely retarded	4,886**	10.0	State
Federal Adm.—						
Defense	Medicare	F/S	Military dependents	35,000 births	1.7	Federal
	Mil. bases:					
	Newborn	Pub.		11,134	0.8	Federal
	Pediatric	Pub.		?	3.0	Federal

Key to Abbreviations: CCS=Crippled Children's Service; Pub.= Public Facility and/or Staff; F/S = Fee for Service; *to 21 years; **under 20 years.

fare), Community Mental Health (Short-Doyle) and Military Dependents' "Medicare."

Let's look next at the existing pattern of children's medical care provided by our tax dollars. Are these monies being spent in a coordinated, logical, economical way, as we have a right to expect? The answer is, definitely, no.

We will limit our discussion here to medical care for children who are socially and economically at a disadvantage. We do not take issue with the provision of comprehensive care of high quality by the Federal Government to children of fathers in military service except to urge that it be made really comprehensive and that where it is to be provided outside of military facilities, it be well planned in advance with the states, regions and communities involved.

The outstanding characteristic of our present patchwork quilt of public medical care for children is uncoordinated fragmentation. Almost the only characteristic these programs have in common is their financing from tax funds, and even this disappears when one looks at the sources of taxes. We would be hard put to design an administrative arrangement which made it more difficult to provide comprehensive care of any quality. Eligibility is identical in no two programs. It is understandable that health department staffs and practicing physicians have difficulty figuring out the rules for admission. What is amazing is that any low income family can produce the necessary combinations of age, economic status, geographic residence and appropriate state of health or disease, at the proper place and time, to obtain care for its children. In front of the very groups who are least motivated by past experience and pressure of other problems to seek early medical care, we place the most obstacles.

It is easy and for some purposes enough for us to look at this fragmentation from our professional and administrative viewpoints. We have been trying also to look at it from the more important viewpoint of the families being served, or not served. Take, for instance, families on the Aid-to-Needy Children's (ANC) program in Santa Clara County. A 4 per cent sample of all ANC families in that county was interviewed at home during the summer of 1959 as one of a series of studies on tax-supported medical care for children there.

Three hundred and seventy-four persons under age 18 lived in these families but because of remarriages 18 per cent were not receiving ANC. These families were by definition atypical of Santa Clara County families. Not only were they all near the bottom of the economic ladder, but they tended to include large numbers of children, to have only one parent, to be of Mexican background, to move frequently, and to live in poor housing.

There can be no question that these children were poorly protected by preventive health services. One-third of the families had never had a physician

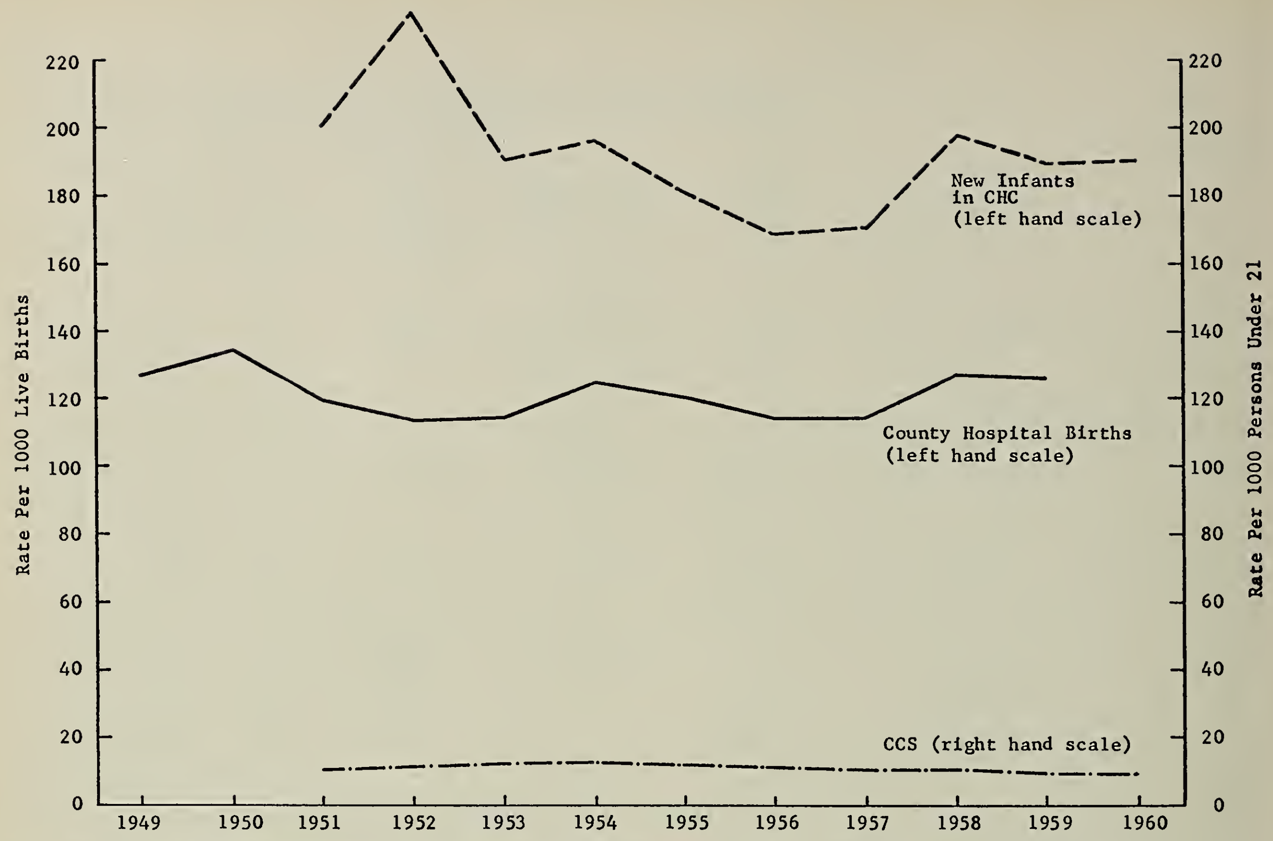

Chart 1.—County Hospital Births, Child Health Conference (CHC) Services and Crippled Children Services (CCS) California, 1949-1960.

check-up for any well child since birth. One-half of the families had never had dental care for any child. Almost two-thirds of the children had not had a check-up by a physician in the previous year and three-quarters had not visited a dentist in that time. Sixty per cent of the school children were not adequately protected against poliomyelitis. Three-fourths of the mothers with children under three years of age had not received any prenatal care in the first trimester of their latest pregnancy.

The families were also asked about the sources of medical care actually utilized by them for illnesses or injuries they recalled during the preceding year, and about problems encountered in obtaining care. Almost half of the medical contacts were with private physicians; one-quarter with the county hospital, and about one-eighth with the health department. Some private care was financed directly by the families themselves and not by tax-supported programs. The problem of trying to figure out which source of care to go to with a particular child with a particular illness appeared to be a real one for many of these families. By and large, they were able to figure out how to obtain care for acute conditions, but tended to have serious problems in obtaining adequate care for chronic illnesses and handicaps. Fragmentation appears to be a problem for parents, too.

Anyone looking at our present tax-supported programs of medical care for children cannot help asking why one-third of those tax dollars provides care by using, at cost, private facilities and staff in the community, while the other two-thirds finances separate government facilities and staff. It is hard to make a case in this day and age for separate tax-supported facilities and staff except possibly for certain expensive types of care such as rehabilitation, long-term in-patient care, or special home care for which private resources remain lacking. Separate services usually require expensive widespread duplication of private services if they are really to be available to people and inherently tend to provide a lower standard of care than exists for the community in general. This stems in part from a reluctance to pay, in tax dollars, the cost of good medical care for poor people. The reluctance comes from the attitude that taxes are bad and that poor people won't use good care properly anyhow. The problem is dramatized in the difficulties of adequately staffing county hospitals with physicians and nurses.

From a reading of the daily newspapers in Madera, Sutter, Imperial and Yolo Counties in recent months, we cannot escape being deeply concerned with the increasing difficulty encountered in obtaining qualified physicians and nurses to serve in these county hospitals. In Madera, where more than a third of the deliveries in the entire county takes place in the county hospital, the four-physician staff dwindled to zero. That hospital operated on a stopgap emergency arrangement, using resident physicians of neighboring county hospitals. Sutter County was also faced with the departure of both members of its physician staff. Imperial County Hospital staffing problems have received wide notice, as did Yolo's previously.

There are, of course, other problems and issues in the provision of tax-supported medical care for children. We have singled out *fragmentation, availability* and *double standards* only as prime examples requiring action now if we want our public medical care programs in California to close the wide gap between them and our remarkable progress in scientific medicine.

Where should we be going? The Governor's Committee on the Study of Medical Aid and Health stated clearly in December of 1960 what we believe to be essential to end fragmentation: "Coordination and integration of health services through 'one door,' i.e., a single local agency where services may be obtained or from which persons may be referred for appropriate care." This encompasses a need to achieve uniform eligibility requirements in various programs and to integrate them functionally at the point where people are served so that they provide comprehensive care instead of the current patchwork. We have already indicated that in our opinion it requires elimination of separate government facilities and staff and maximum utilization at cost of private services that meet appropriate standards. It requires development of a central mechanism for exchange of medical information among the various programs and central assignment of specific responsibility for assuring continuity of care for each individual served. There is need for federal and state legislative and administrative changes to make it easier to accomplish better coordination locally. There is need particularly among low income families to recognize and provide for the close interdependence of health with many other economic, social and cultural problems.

Above all there is need at all levels, public and private, for leadership in reaching these ends. The urgent need for "one door" is patent. Where the door is to be and how well it will work are vital questions for all of us as physicians. But let's be blunt and not pretend that this patchwork is a popular subject for discussion and action. Actual examinations and reports of the quality of tax-supported medical services are not popular in 1961. There are real blocks in the way to improvement. Among the most serious are: (1) improved medical care for indigents will cost more and raise taxes; and (2) fear and misunderstanding on the part of some segments of leadership in organized medicine which lead to an attitude that participation in tax-supported medical programs for indigent families is inappropriate.

The important point is that *change is occurring* rapidly and that now is the time when physicians must exert themselves to see that change produces *better* medical care for children. Physicians are used to the experimental approach to better prevention and treatment of disease. They need now to extend their skills to the experimental approach to better organization and distribution of medical care. The present patchwork is demonstrably no bargain. California medicine can and must do better.

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Cerebral Palsy

The Correlation of Clinical and Pathological Observations

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• Although the causes of cerebral palsy are well known, it is often difficult to assign a cause in specific cases. In some cases, the cause may have been determined on the basis of the history and findings, only to be found in error at autopsy.

In four of the five cases of cerebral palsy reported herein, there was correlation between the clinical findings and the neuropathological findings. In the fifth case, before the patient died, the cause of brain damage was thought to be measles encephalitis; but neuropathological evaluation at autopsy indicated that the brain was microcephalic and inadequately developed as a result of genetic factors.

Cerebral palsy, a term that has been established in medical literature during the past few years, includes a variety of disturbances affecting the neuromuscular system. The definition accepted by the American Academy for Cerebral Palsy[7] is as follows: "Cerebral palsy comprises the motor and other symptom complexes caused by a nonprogressive brain lesion (or lesions)."

Cerebral palsy may manifest itself in many ways, including spasticity, athetosis, tremor, rigidity, ataxia and combinations of these motor disturbances. Because of the brain damage which is present, there may be associated neurological disturbances such as mental deficiency and epilepsy and disturbances of sensation, speech, hearing and vision.

Incidence and Prevalence

The incidence of cerebral palsy is reported to be 5.9 per 1,000 live births. The actual prevalence of 1.52 per 1,000 population was reported in a study by Levin, Brightman and Burtt[5] with a maximum frequency in the age group 5 to 19 years. The peak was in the 5 to 9 year group (6.34 per 1,000) and the next highest in 10 to 14 group (5.0 per 1,000). Illingworth[3] said that there is a good agreement in reported statistics from British and Scandinavian sources, with a prevalence of 1 to 2.1 per 1,000 cases of cerebral palsy in school children.

Etiology

The causes of cerebral palsy are many. The etiological factors are usually divided into three groups: Prenatal, perinatal and postnatal. Among the factors responsible for prenatally determined cerebral palsy are hereditary, prenatal infection, prenatal anoxia, bleeding in the first trimester, multiple births, abruptio placentae, placenta previa, toxemia and diabetes.

Perinatal factors that have been considered as responsible for this condition include breech presentation, protracted or precipitate delivery, induced labor or improper application of forceps, narcotism, maternal anoxia, hypotension and blood factor incompatibilities. Prematurity is also a significant predisposing factor. In our experience in the cerebral palsy clinic at the University of California Medical Center, approximately one-third of the children with a diagnosis of cerebral palsy had a history of prematurity. This is in contrast to the incidence of prematurity in the State of California of about 7 per 100 live births. Postnatal factors include head injury, anoxia, infections of the central nervous system and toxic factors.

Unfortunately, the clinical impression of cause may not be accurate, for in individual cases of cerebral palsy only retrospective information is available, parents may not have all the facts, and a distorted history may not accurately determine the cause of the condition.

Prevention

In order to prevent cerebral palsy and its many serious handicapping effects it is important, of course, to know the cause or causes. Continued emphasis on the factors that are responsible for this condition may eventually lead to a diminution in the incidence and prevention of the many handicapping conditions associated with it.

A means of obtaining more accurate information with regard to etiology is by prospective studies with accurate tabulation of data during pregnancy and at delivery, with careful examination of the child at the time of delivery and during the period of motor development. Tabulation of such data might throw further light on the causes of cerebral

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palsy. Such a study is in progress under the auspices of National Institutes of Neurological Diseases and Blindness as a collaborative study carried out in many medical centers.[8] Although the data from the study will not be available for some time, it undoubtedly will lead to a clearer understanding of many of the factors associated with the production of cerebral palsy.

Neuropathology

Another approach to an understanding of etiological factors is by pathological examination of persons in whom a diagnosis of cerebral palsy has been made and in whom adequate clinical evaluation has been carried out. Early pathological reports of this condition were based on examination of persons who had died many years after the presumed causation and they are concerned mainly with descriptions of the observations at autopsy without correlation with clinical features or possible etiologic factors.

Crothers and Paine,[2] in reviewing the pathologic evidence on the causation of cerebral palsies, noted the controversy that has appeared in the literature with regard to the relative importance of brain hemorrhage and anoxia in the production of brain damage and subsequent cerebral palsy. They found it plausible that hemorrhage almost inevitably produces some anoxia in the area supplied by the vessels which bleed; and that anoxia may produce petechial hemorrhages is also generally accepted. Courville[1] considered anoxia the major cause of cerebral palsy and held that it is of much greater relative importance than frank trauma. In a study by Josephy[4] the term "birth injury" was applied to a variety of neonatal brain lesions, including mechanical injury, hemorrhage and other vascular disorders, as well as most of the effects of asphyxia. Towbin[10,11] classified the pathological process of cerebral palsy into three basic groups:

1. Cerebral palsy due to brain lesions which represent the sequelae of an antecedent systemic disorder of the fetus or newborn infant, including anoxia neonatorum, prematurity, erythroblastosis fetalis and septic states which would result in elective parenchymal necrosis, lobar sclerosis, cystic lesions, status marmoratus, hemorrhage, necrosis and kernicterus.

2. Cerebral palsy due to brain damage of local intracranial processes such as mechanical injury to the head either perinatally or postnatally, circulatory disorders such as thrombosis and embolism, and hydrocephaly. This results in meningeal hemorrhage, ischemia and infarcts, and in damage to motor cortex due to compression and thinning of the cerebral wall.

3. Developmental defects of the brain due to induced or hereditary influences which cause arrest of growth and differentiation and result in cerebral hypogenesis and dysgenesis.

Malamud[6] reported 162 cases as representative of brain damage acquired either at birth or during infancy and early childhood. He divided these cases into two groups: (a) Those with primary subcortical pathologic changes that were characterized either by status marmoratus of the striatum and thalamus or by primary sclerosis or cystic degeneration of the cerebral white matter, with or without focal encroachment of the cortex. There was a high correlation of a history of birth trauma with these lesions. (b) A group with primary cortical pathologic changes characterized by uniform atrophy of the involved gyri associated with widening of sulci. In 90 per cent of the cases in this group there was a history of normal birth and early development followed by an acute illness at some time during infancy or early childhood. The illnesses included meningitis, encephalitis and less definite conditions of febrile convulsions, diarrhea and septicemia.

Although it is recognized that certain cases of cerebral palsy are due to anomalies of the brain, there is question as to its relative frequency and that of birth trauma as causative factors. There is also question as to whether the anomalies represent true maldevelopment from inception of the fetus or whether they are due to prenatal damage to the developing brain.

REPORTS OF CASES

Cerebral Palsy Due to Prenatal Influence

CASE 1. The patient had a confusing history and was considered to have cerebral palsy due to postmeasles encephalitis until the results of autopsy were available. She was born after pregnancy characterized by bleeding at two months, with normal delivery three weeks after the expected date of confinement. The child weighed 7 pounds 4 ounces. She did not breathe immediately and oxygen was administered for about 5 minutes. She appeared to develop normally until 10½ months, when she had measles.

The family history was of interest in that an older brother was blind since birth and was mentally deficient; a maternal cousin was mongoloid.

Upon physical examination at 18 months of age, microcephaly and ataxia were noted. The developmental quotient was reported as 14. While under observation for the next 14 months, she made slight improvement in that she developed the ability to hold up her head and sit in a Baby-Tenda if secured. At 2 years of age she had a grand mal convulsion, although a subsequent electroencephalogram was reported as within normal limits. The child was eventually admitted to Sonoma State Hospital where she died at 6 years of age.

The brain weighed 940 gm. It was symmetrical, moderately reduced in size, with a normal convolutional pattern, normal meninges and blood vessels.

Coronal sections showed normal proportions of grey and white matter with no evidence of demyelinating lesions (Figure 1). The ventricular system was patent and of average size. There were no gross changes either in the brain stem or the cerebellum. The microscopic examination did not show any distinct changes. There were no signs of malformation or lesions which could be attributed to measles encephalitis.

The neuropathological diagnosis was microcephaly of moderate degree without gross anomalies (probably genetic microcephaly).

This case demonstrates the unreliability of the history in an attempt to determine the cause of brain maldevelopment. If the history had not stressed the illness of measles at the end of the first year, there might have been more emphasis on the family history.

Cerebral Palsy Due to Brain Lesions Occurring at the Time of Birth

A large number of cases of cerebral palsy occur in the fetus and newborn whose various brain structures are normally formed but have been subjected to injury or noxious influences at the time of birth. The following report illustrates the changes observed in the brain of a child in whom there was difficulty in initiating respiration.

Case 2. The patient was apparently normally delivered after an uneventful pregnancy, but was quite cyanotic and was not expected to live; for the first two or three days of his life he had generalized convulsions. He remained in the hospital for one month because of feeding difficulties.

At the age of 2 years he was unable to sit by himself and did not talk. On examination at that time he was found to be microcephalic and there was evidence of severe tension athetosis in all extremities. On the Gessell Developmental scale he was found to have a developmental level of 2 months, at a chronological age of 2 years 5 months. An electroencephalogram was considered normal. The child was eventually admitted to Sonoma State Hospital and continued to be a difficult feeding problem. He died at the age of 7 years as a result of bronchopneumonia.

At autopsy the brain weighed 726 grams and was asymmetrical as a result of atrophy of the left occipital lobe (Figure 2). The convolutional pattern appeared to be relatively normal but there was a distinct discrepancy on the left side between a large temporal and a small occipital lobe, and the right pyramidal tract appeared smaller than the left one. There was diffuse crowding of the gyri. On section there was a striking disproportion between relatively abundant cortex and pronounced reduction in the white matter (Figure 3). There was decided atrophy of the corpus callosum; the lateral ventricles were enlarged. In some areas there was additional cortical

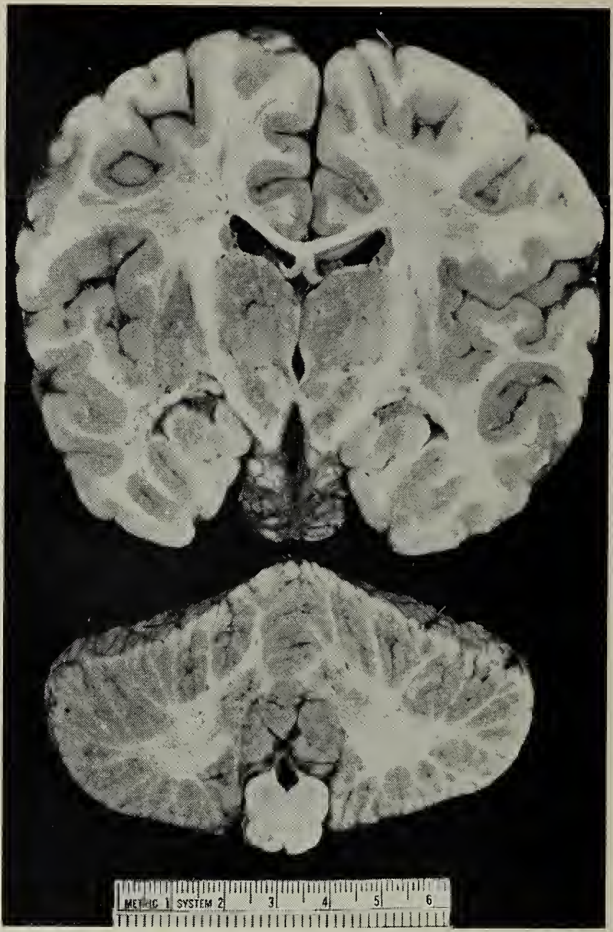

Figure 1.—(Above) Normal proportions of gray and white matter, no evidence of demyelinating lesions; (below) No gross changes in brain stem or cerebellum.

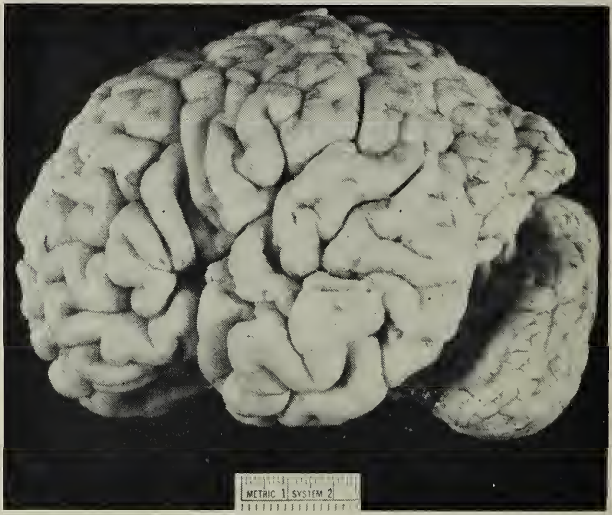

Figure 2.—Small brain, atrophy of the left parieto-occipital region.

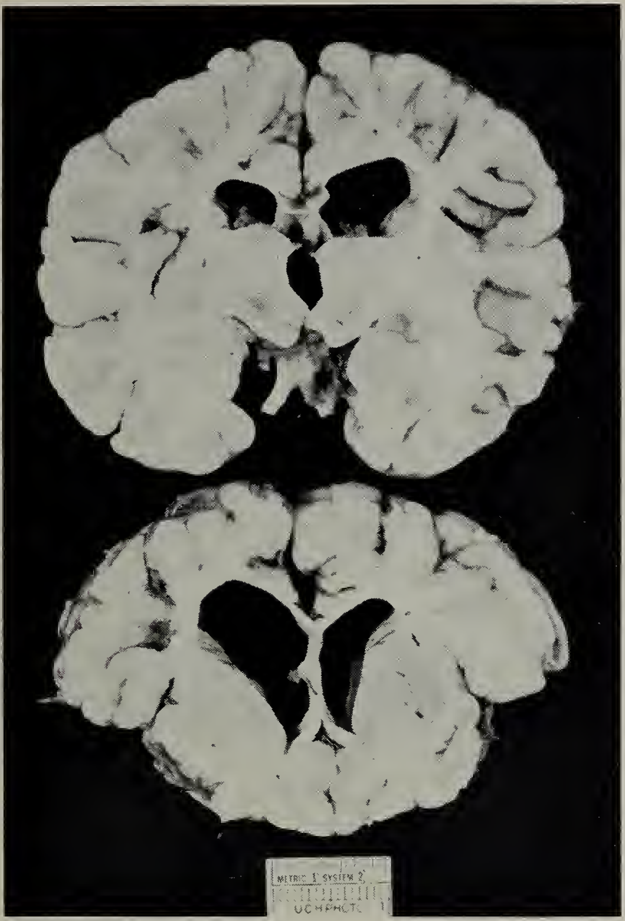

Figure 3.—(Above) Disproportion between relatively abundant cortex and marked reduction in white matter; enlargement of lateral ventricles. (Below) Vague discoloration of the basal ganglia suggesting status marmoratus.

atrophy, irregularly distributed. The thalamus was decidedly atrophic bilaterally and contained faint traces of a status marmoratus. The temporal horn was considerably enlarged; the fornix was underdeveloped and there was a suggestion of hippocampal atrophy bilaterally. Pronounced enlargement of the third ventricle was noted. The midbrain stem structures were not appreciably involved except for the atrophy of the pyramidal tracts. There was no gross change in the cerebellum.

Microscopic section showed diffuse sclerosis of the white matter associated with irregular encroachment of the cortex in the form of focal lower layer degeneration mushrooming or radial scars. In the basal ganglia there was a characteristic status marmoratus of caudate nucleus, putamen and thalamus, the latter being most severely degenerated.

Features of the case were diffuse sclerosis of white matter, sclerotic microgyri of cortex and status marmoratus. According to Towbin,[11] sclerosis of white matter and status marmoratus are due to anoxia. However, Schwartz,[9] Malamud[6] and others agree that such degeneration of white matter and the pathologic conditions referred to as status marmoratus are due to mechanical circulatory disturbances in the Galenic venous system accompanying birth trauma. While anoxia certainly played a significant part in the clinical manifestations in Case 2, it is impossible to state whether anoxia was responsible for all the symptoms or followed traumatic damage to the brain.

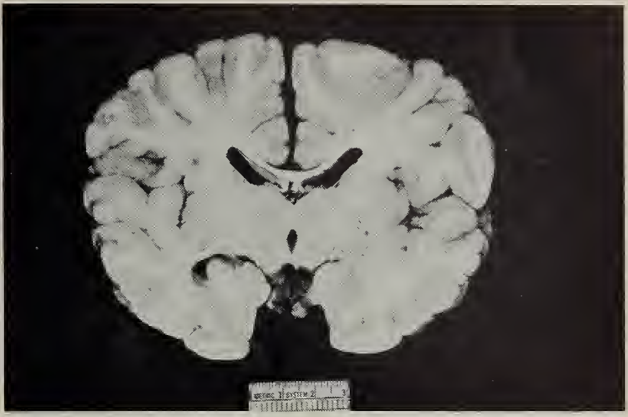

Figure 4.—Status marmoratus of basal ganglia and thalamus.

CASE 3. The patient was born 2 months prematurely of a diabetic mother while she was in diabetic coma. He weighed 5 pounds 5½ ounces at birth and remained in the hospital for one month with a question of birth injury. This child developed very slowly; he was never able to hold his head up alone nor to sit alone. He was difficult to feed and never developed speech. He was completely helpless throughout his life and the diagnosis was cerebral palsy, tension athetosis and mental deficiency. He died at the age of 7 years following an intercurrent infection of the respiratory tract.

The brain weighed 1,180 grams after fixation. It was of average size and symmetrical. The leptomeninges were thin, the basal vessels delicate. The brain showed a tendency to bulkiness in the frontal and temporal lobes. There was no evidence of cortical atrophy, and no change in the stem or cerebellum.

Coronal sections showed no evidence of cortical atrophy and no distinct change in the white matter (Figure 4). The ventricular system was of normal size, except for mild enlargement of the anterior horns. A pronounced status marmoratus of the basal ganglia and thalamus was evident, and a network of whitish fibers was present in these nuclei, somewhat more pronounced on the right side. The following areas were involved: The head, dorsal part of the body, and the major part of the tail of the caudate nuclei, the dorsal fourth of the anterior part of the putamen and, posteriorly, the dorsal two-thirds of the lentiform part of the putamen, especially on the right; the anterior halves of the dorsomedial thalamic nuclei and, sparing the re-

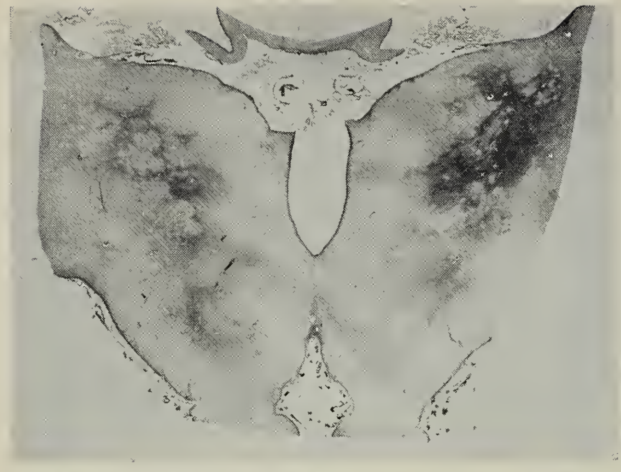

Figure 5.—Holzer stain: gliosis in the form of status marmoratus in the thalamus. (Macro slide ×5.)

mainder of the medial nuclei, involving severely the lateral group of thalamic nuclei and the pulvinar. There were no changes in Ammon's horn. The body of the corpus callosum was moderately narrowed. There were no gross changes in the cerebellum. The pyramids were somewhat reduced in size.

Microscopic Examination (Figure 5). The lesions in the caudate nucleus, putamen and thalamus consisted of an interlacing pattern of glial fibers in the Holzer preparation, with focal loss of neurons and increase in glial nuclei in Nissl-stained specimens and finely medullated fibers in the Weil-stained sections. Between the lesions, there were nests of preserved nerve cells. In the globus pallidus, there was a more diffuse gliosis. A milder gliosis was seen in the centromedial areas of the hypothalamus, in the vicinity of the substantia nigra, in the cerebral white matter and in the body of the corpus callosum. There were no changes in the cerebral cortex, brain stem, cerebellum or medulla, including the pyramidal tracts.

The pathologic changes in this case were limited almost entirely to the basal ganglia and were characteristic of status marmoratus. The relationship of the mother's diabetes and toxemia to this condition can only be conjectured. However, the mother's illnesses undoubtedly led to the premature birth of her child which could have a significant influence on factors leading to brain damage, much the same as in Case 2.

The following case is an example of hyperbilirubinemia resulting in kernicterus.

CASE 4. The patient was the product of the second pregnancy of an Rh-negative mother whose first child was normal. Following birth (weight 7 pounds 8 ounces) jaundice developed in the baby and the result of a Coombs test was positive. The infant was given several transfusions but not a replacement transfusion. He was rigid and opisthotonic in the neonatal period and his motor development was extremely retarded.

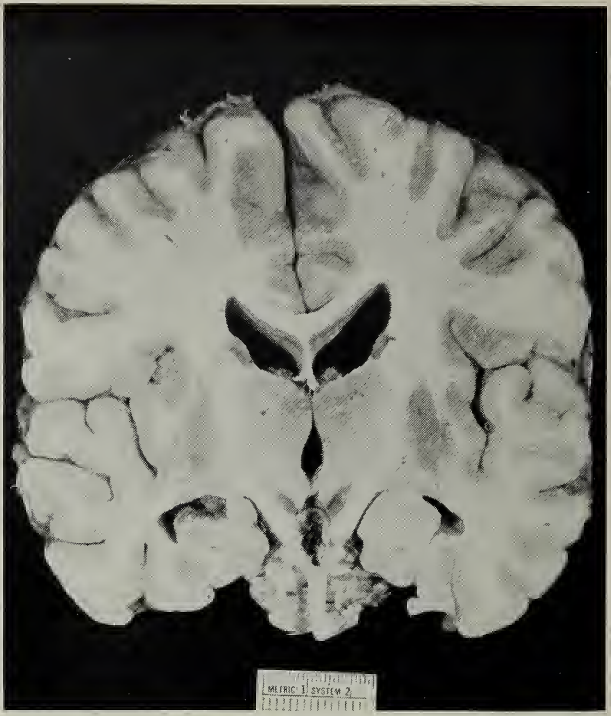

Figure 6.—Atrophy of subthalamic body and globus pallidus and atrophy of hippocampal formation.

On examination at 7 months of age he was fairly well nourished but completely helpless and showed no interest in his environment. Bilateral internal squint was present. He was unable to hold up his head; muscle tone varied from some increase to moderate hypotonicity; and mild tremors of the hands were present at times. The deep reflexes were equal and active in the arms; knee jerks were increased. Babinski's sign was positive bilaterally. Developmental tests were attempted but the child did not show any ability, even up to the 3-month level. An electroencephalogram at one year of age was reported as compatible with generalized cerebral dysfunction. No abnormality was noted in an x-ray film of the skull. The patient died at the Sonoma State Hospital at the age of 6 years 9 months.

The brain weighed 1,077 grams after formalin fixation. It was symmetrical and, with the exception of mild irregularities of its convolutional pattern and an exposed insula, there were no gross abnormalities. There was no evidence of atrophy of the cortex. However, the cerebellum was distinctly atrophic, firm and small relative to the size of the cerebrum. The optic pathways were grossly normal.

Coronal sections (Figure 6) showed normal outlines of all structures. The lateral ventricles were slightly but symmetrically dilated. The most striking changes were:

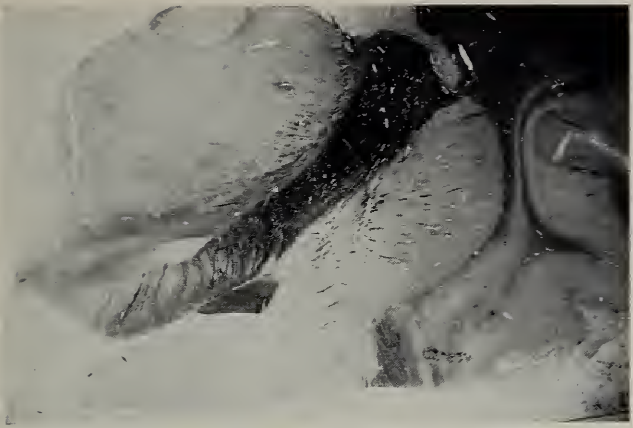

Figure 7.—Demyelinization and gliosis in globus pallidus and subthalamic body. Weil stain. (Macro slide ×5.)

1. Symmetrical bilateral atrophy of the globus pallidus, which was unusually pale, particularly in its internal division;
2. The subthalamic bodies were difficult to identify, probably because of atrophy;
3. The thalamus seemed pale;
4. There was a distinct atrophy of the dentate area of the hippocampus bilaterally, with corresponding enlargement of the temporal horns.

There were no gross changes in the brain stem. The cerebellum showed severe generalized atrophy of the folia, but differed in severity in different parts. The dentate nucleus and the inferior olivary nuclei were, however, grossly normal.

Microscopic Examination (Figure 7). The most significant lesions were bilateral degeneration and gliosis in the globus pallidus, the subthalamic body and the dentate area of the hippocampus. The latter included the dentate fascia, the end plate and the dorsal cell band. There were mild lesions in other areas, such as parts of the cerebral cortex, the medial nucleus of the thalamus, the mammillary body, the cerebellum and the inferior olives. The pathologic changes were unusual since common findings in kernicterus are confined to the pallidal, subthalamic and hippocampal areas. However, it is accepted that other parts of the brain may be involved occasionally.

Cerebral Palsy Due to Postnatal Brain Damage

CASE 5. The patient developed normally until 6 weeks of age at which time his skull was fractured in a fall from a perambulator. A subdural hematoma was observed and an attempt was made to evacuate it. Subsequent progress of the patient was extremely slow.

When the patient was 8 months of age air contrast roentgen studies were done and the parents were informed that there was evidence of a great deal of damage to the brain tissue. At 13 months, when the patient was seen in the Cerebral Palsy Clinic at the University of California Medical Center, he was unable to hold up his head or to sit up. He showed little reaction to his environment. His head was 42 cm. in circumference. The extremities were all moderately spastic. Deep reflexes were increased and Babinski's sign was positive bilaterally. Developmental tests were attempted, but no ability above the 1-month level was demonstrated. The child was eventually admitted to Sonoma State Hospital where he died at the age of 7 years 10 months. A note from Sonoma State Hospital indicated that the patient was blind. There was asymmetry of the body, with the right side of the chest larger than the left. He was spastic in all four extremities and required bottle feeding.

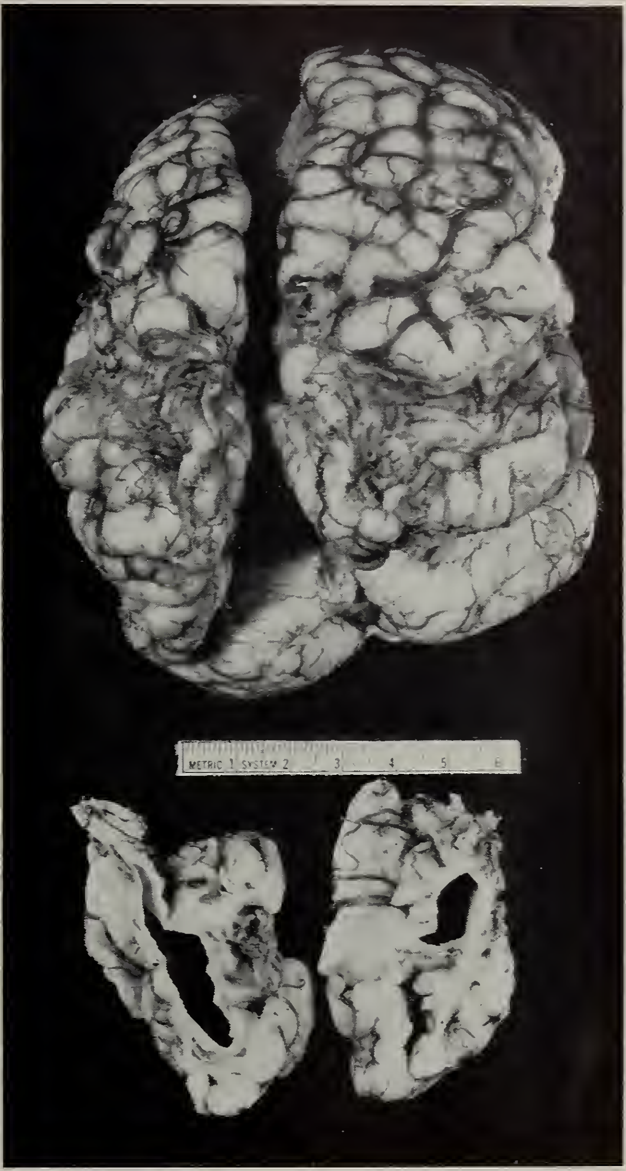

Figure 8.—Small, asymmetrical brain, left hemisphere smaller than right, showing extensive areas of chronic encephalomalacia in the parieto-occipital areas—(above) external surface; (below) coronal section.

At autopsy strong fibrous adhesions binding the dura to portions of the brain were noted. A cystic softening process extensively involved the cerebral hemispheres; it was most prominent over the mid-lateral aspects.

After formalin fixation, the weight of the brain was 450 gm. (Figure 8). It was very small and asymmetrical, the left hemisphere being somewhat smaller than the right. There were many extensive destructive lesions, localized as follows:

1. In the base of the frontal lobes bilaterally but more extensively on the left side;
2. Bilateral parasylvian lesions exposing the insula with extensive destruction of the temporal, frontal and parietal opercula;
3. Bilateral basitemporo-occipital lesions except the hippocampal gyri, and
4. A parasagittal central lesion on the left side.

Coronal sections (Figure 8) confirmed the presence of these lesions, which appeared to be residual infarcts in vascular areas (middle, posterior and anterior cerebral). In addition, there was a diffuse reduction in white matter, most pronounced in the vicinity of the above lesions but also spread beneath the more normal cortex, and decided atrophy of the corpus callosum. The basal ganglia showed a change in the head of the caudate nucleus bilaterally that resembled status marmoratus, and there was suggestion of a similar change in the thalamus but without visible change in the putamen or any of the remaining subcortical nuclei. The peduncles were small bilaterally and the lateral ventricles were greatly dilated. The optic pathways appeared normal except for the optic radiations, which were obviously destroyed in the vicinity of the occipital cortical lesions. A part of the dura enclosed with the specimen showed organized subdural membranes, apparently bilaterally.

Microscopic Report. The cerebral lesions were severely destroyed areas in which the nervous tissue was virtually replaced by cyst formation and gliosis, and in which considerable calcium had been deposited within microglia and gitter cells in the areas of necrosis. Grey matter and white matter were equally affected. The walls of the meningeal vessels were frequently thickened, hyalinized and calcified. Status marmoratus of moderate degree was evident in parts of the caudate nucleus, putamen and thalamus. Subdural hematomas were in a very chronic stage of fibrous organization. The hippocampus showed focal areas of scarring in Sommer's sector and the end-plate region. The cerebellum also contained focal areas of atrophy of both Purkinje and granular layers.

This case was considered unusual in that, in addition to the post-traumatic chronic subdural hematomas, extensive destruction of the underlying brain tissue had occurred which appeared to be owing to vascular complications—arterial or venous. Supporting that etiologic surmise was the status marmoratus, which is rare in cases of postnatal trauma although a common sequel to birth trauma.

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ACKNOWLEDGMENT: I wish to acknowledge with great appreciation the assistance of Nathan Malamud, M.D., clinical professor of neuropathology and psychiatry, who performed the neuropathological examinations in the cases reported in this paper.

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Effect of Amphetamines on Speech Defects In the Mentally Retarded

CHARLES H. FISH, *M.D., M.P.H.*, and EVELYN BOWLING, Costa Mesa

• In a double-blind study, 106 mentally retarded patients with speech defects were given 15 mg. of d-Amphetamine daily, or a placebo, for a three-month period. Speech defect types were: Stuttering, immature production, oral inaccuracy, lisp, psychotic, mongoloid, aphasia, deafness, and cleft palate. Only the stutterers showed obvious improvement in comparison with the placebo group. Three severe, long-term stutterers showed such dramatic improvement that their whole course in life has been changed.

THE STUDY here reported on the effect of amphetamines on speech defects is a resultant of the personal experience of one of the authors who, while taking Dextroamphetamine (Dexedrine®) for weight control in 1957, noticed a dramatic reduction in his stuttering. A review of the literature revealed that Ginn and Hohman in 1953, using dextroamphetamine for behavior problems in children, noted that the speech of two of four stutterers showed improvement. A short term pilot trial of dextroamphetamine in 1958 at Sonoma State Hospital on five mildly retarded patients who stuttered resulted in some improvement in all five cases. From these observations, dextroamphetamine seemed to merit further investigation as a possible agent in the treatment of stuttering. Because of the various concurrent and possible contracurrent psychological factors involved, a double blind study was undertaken. Patients with other speech defects were included in the study, for exploratory reasons as well as to disguise the fact that the principal objective was the study of stutterers.

MATERIALS AND METHODS

Dexedrine® (15 mg.) spansules and identical placebos were supplied in capsule form labeled A, B, C, and D. None of the participants of the investigation had knowledge of the code. Insofar as possible, the A, B, C, and D capsules were divided equally among the various speech types selected. A hundred and six patients, 53 males and 53 females, who ranged in age from 10 to 65 were selected. Twenty-two were stutterers, 16 had immature production of speech, 21 had oral inaccuracy, six had a lisp, 11 had psychotic speech, 15 had brain damage speech, seven had mongoloid speech, seven had aphasia or deafness, and one had cleft palate speech. Patients were given one spansule daily in the morning without being informed of the nature of the treatment. Treatment was continued for three months. Tape recordings of speech were made before and after treatment. Observations were made regarding side reactions such as behavior, change in weight and psychotic disturbances. A final general impression of speech improvement or no speech improvement was made based on combined observation by ward personnel, a speech therapist and the director of the project. Patients who showed improvement after three months were given treatment for another three months.

RESULTS

Table 1 shows that the results for the group as a whole, all the various kinds of speech defects included, the therapeutic effects of the placebo equalled the effects of Dexedrine.® However, as to results in specific groups, five of 11 stutterers who received Dexedrine® showed improvement, whereas only one of eleven receiving the placebo was improved. Further analysis of the stutterers receiving Dexedrine® did not reveal any significant difference in age, sex or intelligence quotient between those

TABLE 1.—*Comparison of Dextroamphetamine (Dexedrine®) and Placebo Effect on Speech Defects*

	Dexedrine®		Placebo	
Types of Speech	Improved	Not Improved	Improved	Not Improved
1. Stutterer	5	6	1	10
2. Immature production	3	7	3	3
3. Oral inaccuracy	2	8	2	9
4. Lisp	0	3	0	3
5. Psychotic	0	4	1	5
6. Brain damage	2	3	4	4
7. Mongoloid	0	1	0	4
8. Aphasia and deafness	2	2	2	1
9. Cleft palate	0	0	1	0
	14	34	14	39
Treatment not completed because of side effect	0	5	0	0
	14	39	14	39

Presented before the Section on Psychiatry and Neurology at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

TABLE 2.—*Stutterers Who Received Dextroamphetamine (Dexedrine®)*

Patient No.	Age	Sex	Intelligence Quotient	Degree of Stutter	Results
Speech Improvement					
1	38	M	34	Severe	Dramatic improvement by controlling of stutter
2*	60	M	95	Severe	
3	36	M	54	Severe	
4	17	F	44	Mild	No stuttering
5	11	M	48	Mild	
6	40	F	52	Severe	
7	30	M	33	Severe	
8	31	M	74	Severe	
9	31	M	37	Severe	
10	54	M	33	Severe	
11	35	M	54	Moderate	

*I.Q. before treatment 59; after treatment, 95.

who improved and those who did not. Two of the patients with severe stuttering who did not improve were mongoloids. (See Table 2.)

Five patients receiving Dexedrine® experienced adverse side effects: In one, psychotic disturbances increased; in two, athetosis increased; and two had excessive loss of weight.

It was noted that the three stutterers who improved dramatically did so by controlling their stuttering so that it was not observable. Patients showing improvement continued to receive Dexedrine®; those who did not show improvement were given another amphetamine, benzphetamine (Didrex®-Upjohn) 50 mgm. b.i.d. After three months of administration of Didrex®, no improvement was evident in them, but two mild stutterers who had not previously received Dexedrine showed considerable improvement with Didrex®.

DISCUSSION

Even though the exact mechanism of the effect of Dexedrine® on stutterers was not a subject of this study, it was noted that in the three stutterers who had dramatic improvement, stuttering was not eradicated; it was controlled by the patient. It is quite probable that these three stutterers would have continued stuttering severely for the rest of their lives had not the various factors of this project intervened.

P. O. Box 1000, Fairview State Hospital, Costa Mesa (Fish).

ACKNOWLEDGMENT

The Dexedrine® spansules and the placebos used in this study were supplied by Smith, Kline & French Company.

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Discussion by RONALD R. KOEGLER, M.D., *Los Angeles*

The paper by Dr. Fish and Mrs. Bowling is a very interesting study of a very interesting drug, amphetamine. This drug, in addition to its many other medical uses, has been found useful by investigators in the treatment of hyperkinetic impulse disorders in children. The original work on this was done by Bradley in 1941. Amphetamine was neglected in the burst of enthusiasm for tranquilizers in the 1950's, but it has now made a "comeback" and has assumed a respected position in therapy.

The foregoing paper brings to our attention a new possible use for amphetamine, the treatment of stuttering. Dr. Fish is to be commended for following up his own personal experience with an attempt to validate it in a scientific study. Discussion of the paper can be divided into two broad areas. (1) Does the evidence from the study indicate that amphetamine helps stuttering? And, (2) if so, what is the mechanism?

It would seem that the answer to the first question cannot be ascertained from the data presented. The impression here, upon glancing at the data, is that there is probably a significant difference between amphetamine and placebo. However, when the data is analyzed by Chi squared technique (using Yates' correction because of the small numbers), it may be seen that the results of this study could have occurred by chance in one out of six or seven attempts.

Yet there certainly is some *indication* from the data that *perhaps* it has some value, and I would recommend that the authors accumulate data on more cases. The greater the number of cases, the more significant any difference becomes. I would suggest that if this is done another stimulant control drug such as Ritalin® (methylphenidate hydrochloride) should be used in addition to the placebo. This is because it is my impression that it would not be too difficult to detect which of the patients in this study received amphetamine due to the side effects of the drug, such as increased activity, loss of weight and restlessness. This is borne out by the fact that in five patients amphetamine had to be discontinued because of side effects.

Still discussing the question of effectiveness of amphetamine, it would be helpful if the authors would describe in more detail the make-up of the stuttering group, both those receiving amphetamine and those the placebo. The data presented might have more meaning if we knew how many were mongoloids, how many had brain damage and other details.

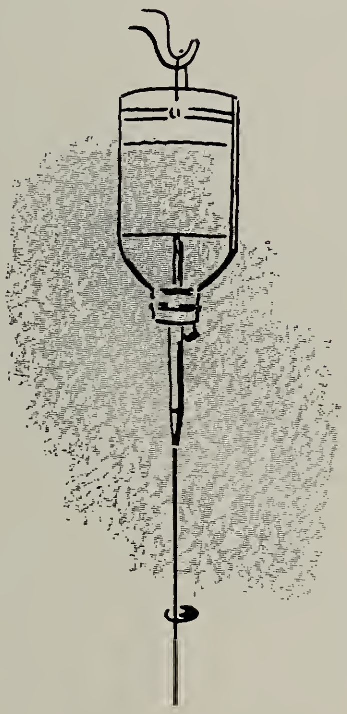
Assuming for the moment, however, that perhaps amphetamine does have some effect on stuttering, we still have to answer the second question: Why? Is it because of some specific effect of amphetamine on stuttering or because amphetamine brings about general improvement which includes the symptom of stuttering. This could be determined by assessing general clinical improvement in the patient as well as stuttering and such an appraisal would require more careful analysis of the clinical changes. Also, if Ritalin® had been used as a control in addition to the placebo, it might have been possible to speculate more accurately on the specific effects of amphetamine.

It is interesting in this regard to refer to the work of Laufer on the photo-Metrazol threshold as it is effected by amphetamine in children. It was his feeling that the effect of amphetamine in raising this threshold was due to its effect on the diencephalon, particularly the reticular activating system as described by Magoun. I would suspect that any effect of amphetamine on stuttering of these children would be in the nature of a general improvement in their condition through this mechanism, and not a primary effect on the stuttering.

Finally, although this explained results in the children, it does not explain Dr. Fish's own dramatic improvement. One can speculate that he was so happy by the loss of weight that his general mental outlook improved and along with it his stuttering. I am also curious as to whether Dr. Fish is still taking amphetamine and whether he would recommend that lifetime daily doses of amphetamine be prescribed for stutterers, as insulin is for persons with diabetes.

* * *

Dr. Fish: Improvement was maintained after Dexedrine was discontinued. One patient needs an occasional Dexedrine spansule. There is no apparent need for life-time daily doses.



Local Anesthesia in Ophthalmology

GEORGE L. TABOR, ***M.D.,*** **San Diego**

• With local anesthesia for intraocular operations, postoperative agitation, nausea and vomiting are less frequent, which tends to reduce the number of intraocular complications. Bleeding is less troublesome, and secretions are better controlled. Fewer cardiac and pulmonary complications occur with local anesthesia.

Meperidine hydrochloride (Demerol®) and pentobarbital sodium (nembutal) remain drugs of choice in preoperative medication. Lidocaine (Xylocaine®), 1 or 2 per cent, is a most satisfactory local anesthetic for intraocular operations.

Complete akinesia of the eyelids has been achieved in every instance by a modified combination of the O'Brien and Van Lint techniques, using lidocaine 1 per cent.

Nasolacrimal procedures can be performed satisfactorily by injecting the nasociliary and infraorbital nerves with lidocaine 2 per cent.

LOCAL ANESTHESIA is still preferred by the great majority of ophthalmologists for intraocular operations. The reasons for this preference are many:

- Agitation or nausea in the immediate postoperative period, before the operative wound has become securely sealed, can be disastrous, especially following removal of cataract.
- With the patient calm and quiet after operation, the likelihood of flattening of the chambers, prolapse of the iris or rupture of wounds is reduced and hyphema is less. Vitreous pressure is lower with local than with general anesthesia, the eye is "less full" and vitreous loss is not as common.
- Bleeding when the eye is open is not as troublesome with local anesthesia.
- Secretions are better controlled and bodily functions in general are disturbed to a much less degree.
- In the immediate postoperative period the patient is better oriented, and early ambulation is possible if that is desired.
- Under local anesthesia there are fewer cardiac and pulmonary complications, and embolic phenomena are less frequent. Gartner and Billet[2] reported an average of 45 deaths a year under general anesthesia during eye operations performed by certified ophthalmologists. In this connection it must be borne in mind that a high proportion of intraocular operations are done on elderly, senile patients for whom general anesthesia is a greater risk.
- A few patients have a morbid fear of being put to sleep, and the related tenseness and anxiety increase the hazard of serious complications, both during and after operation.

PREOPERATIVE MEDICATION

For preoperative medication, the following routine has proven quite satisfactory in most adult patients. Two hours before operation the patient is given 0.1 to 0.2 gm. of pentobarbital sodium (Nembutal®) by mouth, then an hour later meperidine hydrochloride (Demerol®) 75 to 100 mg. and dimenhydrinate (Dramamine®) 50 to 100 mg. are administered intramuscularly. If the operation is for removal of cataracts several drops of cocaine hydrochloride (4 per cent) are instilled in the eye at five-minute intervals when the patient arrives in the operating room.

As Atkinson[1] pointed out, the time-honored barbiturates are excellent hypnotics. They are usually quite predictable and there are relatively few side effects. Not often are nausea and vomiting associated with them, and usually they give satisfactory amnesia. However, they may cause disorientation and restlessness in elderly patients unless dosage is carefully controlled. Barbiturates also decrease the toxic side effects of local anesthetic agents.

Meperidine hydrochloride (Demerol) is a most effective analgesic. Toxic reactions are rare. It produces very little nausea and seldom vomiting when used in conjunction with local anesthetics. When given intramuscularly it reaches its maximum effect in 45 to 60 minutes and usually lasts for a minimum of two hours. It has a less depressant effect on respirations than morphine. It is also a good antispasmodic, one effect being that postoperative constipation is less likely when it is used. Another advantage is that corneal sensitivity is reduced.

Many anesthesiologists have lost faith in dramamine as an antiemetic, but I have found it satisfactory when used in conjunction with Demerol and pentobarbital sodium preoperatively.

In my experience the effect of tranquilizing drugs is unpredictable and I do not usually prescribe them unless the patient has been taking them routinely.

Before any drug is administered, a careful history concerning drug sensitivity is taken in each case. It has not been necessary to pretest patients for sensitivity as suggested by Atkinson.[1]

Presented before a Joint Meeting of the Sections on Anesthesiology and Eye at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

Following is the technique I have used for six years to produce lid and retrobulbar akinesia and anesthesia.

Lidocaine (Xylocaine®) 1 per cent in 1:100,000 epinephrine, is employed in a modified combination of the O'Brien and Van Lint techniques. A 1½ inch 25 gauge needle is used, and 5 to 7 cc. is injected at a point 15 mm. in front of the tragus of the ear on a line from the tragus to the angle of the mouth. The needle is pressed deep into the parotid gland and to the ramus of the mandible. The skin at the site of injection is usually elevated, forming a mound 5 mm. high and 25 mm. in diameter. This injection reaches all the branches of the pes anserinus of the seventh nerve as they bend forward around the ramus of the mandible and course through the parotid gland. Next, infiltration of the anesthetic agent into a curved zone under the skin around the temporal side of the eye is carried out. The injection is started 15 mm. lateral to the external canthus and carried down below the lower eyelid to the area of the infraorbital foramen to reach the fibers of the infraorbital branch of the maxillary nerve. The needle is then directed up and slightly medially to carry the infiltration well above the brow. A small amount of lidocaine is then injected at the external canthus in case canthotomy becomes necessary. The lid margins are injected lightly to reduce the pressure sensation of the lid speculum.

With this technique, complete akinesia of the lid was always achieved.

For retrobulbar injection, lidocaine 2 per cent in 1:100,000 epinephrine is used. Ten turbidity units of hyaluronidase are added to each cubic centimeter. Two cubic centimeters of the mixture is injected into the muscle cone through the skin of the lower eyelid and the infratemporal quadrant of the orbit. A 1½ inch 25 gauge needle is used and a small amount is injected ahead of the needle as it is being pressed through the orbit to lessen the chances of piercing a blood vessel. By noting the size of the globe and its relation to the orbital rim and keeping in mind the general anatomy of the orbit I try to visualize the location of the entire muscle cone. The injection must be in the mid-conal zone and neither apical nor immediately retrobulbar. With attention to this factor, complications are much less likely to occur, akinesia and anesthesia are more effectively produced and there is less likelihood of a retrobulbar hemorrhage. The ciliary ganglion, the ciliary nerves and the nerves to the muscles are easily anesthetized by diffusion from this zone.

The next step is to inject 0.75 cc. of xylocaine 2 per cent solution into the posterior third of the superior rectus muscle through the skin of the upper eyelid, again forcing a little of the mixture ahead of the needle as it is advanced. This completes the injections.

Adding hyaluronidase to the mixture makes the anesthetic effect start sooner but shortens the duration. Epinephrine increases the duration of the anesthesia and produces hypotony. I have not given acetazolamide (Diamox®) to any of the patients preoperatively to produce hypotony.

After the injections are completed, the globe is massaged for five minutes or longer until satisfactory hypotony and akinesia of the extraocular muscles are obtained, the vitreous pressure being directly related to the tone of the extraocular muscles. The massage, which I consider an advancement in the preparation for cataract operation, is simply the intermittent application of pressure downward and posteriorly with the two index fingers. I do not apply diffuse pressure even for so short a time as 15 seconds, lest vascular occlusion be precipitated.

In a period of six years the only complication with the method described was retrobulbar hemorrhage, which occurred in two cases. The operation was cancelled in both instances but was done later under local anesthesia without further complications. No drug sensitivity or idiosyncrasy, orbital edema or other complications occurred. Anesthesia lasted long enough in all cases.

A related procedure is a rather simple, fairly well known but often overlooked method of producing regional anesthesia by blocking the nasociliary and infraorbital nerves for procedures on the nasolacrimal drainage system. A needle is introduced into the orbit along the superonasal wall just beneath the trochlea for a distance of 15 to 20 mm., the plunger being gradually depressed as the needle is advanced. One cubic centimeter of lidocaine 2 per cent is injected. This anesthetizes all the terminal branches of the nerve—the infratrochlar, the anterior nasal and the terminal external nasal branches. Then the infraorbital nerve is blocked at the infraorbital foramen by introducing the needle just lateral to the ala of the nose and directing it up and laterally into the infraorbital foramen which is on a vertical line beneath the superior orbital notch, and discharging 1 cc. of lidocaine 2 per cent solution there. Excellent regional anesthesia is produced by this method.

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CASE REPORTS

Sarcoidosis: A Case with Extensive Metastatic Calcification, Renal Failure and Favorable Response to Steroid Therapy

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FRANK A. SOLOMON, JR., M.D., San Francisco

SARCOIDOSIS being a disease that may involve almost any system of the body, a patient with this illness may have many different symptoms.[9,11] A high proportion of patients, on the other hand, may be asymptomatic and the diagnosis is often suggested only by routine x-ray films of the chest showing hilar lymphadenopathy. In 20 to 30 per cent of cases hypercalcemia and hypercalciuria occur,[15] which may cause a variety of symptoms, such as nausea and vomiting, and if uncorrected may lead to deposition of calcium in the kidneys, resulting in nephrocalcinosis and the signs and symptoms of renal insufficiency.[14,17] The hypercalcemia together with phosphorus retention, whether due to the renal insufficiency or secondary hypoparathyroidism, may lead to the deposition of calcium in other tissues, producing so-called ectopic or metastatic calcifications.

The following case is an example of such manifestations of the disease, again calling attention to the need to consider sarcoidosis in the differential diagnosis of hypercalcemia and chronic renal disease. It also demonstrates the remission which may be obtained with steroid therapy in the presence of extensive renal failure and metastatic calcifications. Since in this case the calcifications were unusually extensive, they are of particular interest.

CASE REPORT

The patient, a 27-year-old single white man, was admitted to the clinic service January 25, 1960 with chief complaint of headaches of ten years' duration.

A routine x-ray film of the chest in 1947 showed enlargement of the hilar shadows, suggesting hilar adenopathy. A right inguinal biopsy revealed only nonspecific fibrosis. X-ray films were taken periodically afterward but no enlargement of the hilar densities was noted.

The patient was symptom-free until 1950, when he first complained of headache, gum pain and a "runny nose." X-ray films showed sinusitis, for which he was treated with drainage and antibiotics. Three years later he again complained of upper posterior gum pain, and "gritty" and "bloodshot" eyes. Antibiotics were administered for conjunctivitis and the condition abated. Pain also developed over the right temporomandibular joint and the right supraorbital area. Relief was obtained with aspirin, which was used frequently.

In November and December of 1953 the patient was admitted to hospital because of severe frontal headaches, nausea and vomiting. No abnormalities were noted in spinal fluid examination, an electroencephalogram and x-ray films of the skull. Anemia, two plus albuminuria, and elevation of the nonprotein nitrogen content to 111 mg. per 100 cc. were noted and an x-ray film of the chest showed a "central type of pneumonia involving the hilar area." An intravenous pyelogram showed no concentration of dye within the renal pelvices or calices, but films taken 90 minutes after injection showed some generally increased density of the renal shadows. The physician attending him at that time treated him symptomatically for chronic glomerulonephritis.

In March 1954 he was readmitted because of right low back pain radiating to the right inguinal area. He continued to complain of headaches. A retrograde pyelogram did not demonstrate any gross abnormality. Two blood transfusions were administered for persistent anemia. By November, 1954, headaches had become so severe that the patient required frequent injections of meperidine (Demerol®) for pain and was again admitted to the hospital. He also had recurrence of the vomiting, and large doses of analgesics and chlorpromazine (Thorazine®) were required to control these symptoms. Corticotropin, 20 units daily, was given for five days as additional treatment for his suspected chronic renal disease. The physician treating him believed that the symptoms were probably secondary to uremia. The blood urea nitrogen was 54 mg. per 100 cc. Cortisone, 75 mg. daily, was given for about three months without benefit.

In April 1959 the patient was again admitted because of progressive loss of hearing, was found to

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From Department of Medicine, St. Mary's Hospital, San Francisco 17.

Submitted June 27, 1961.

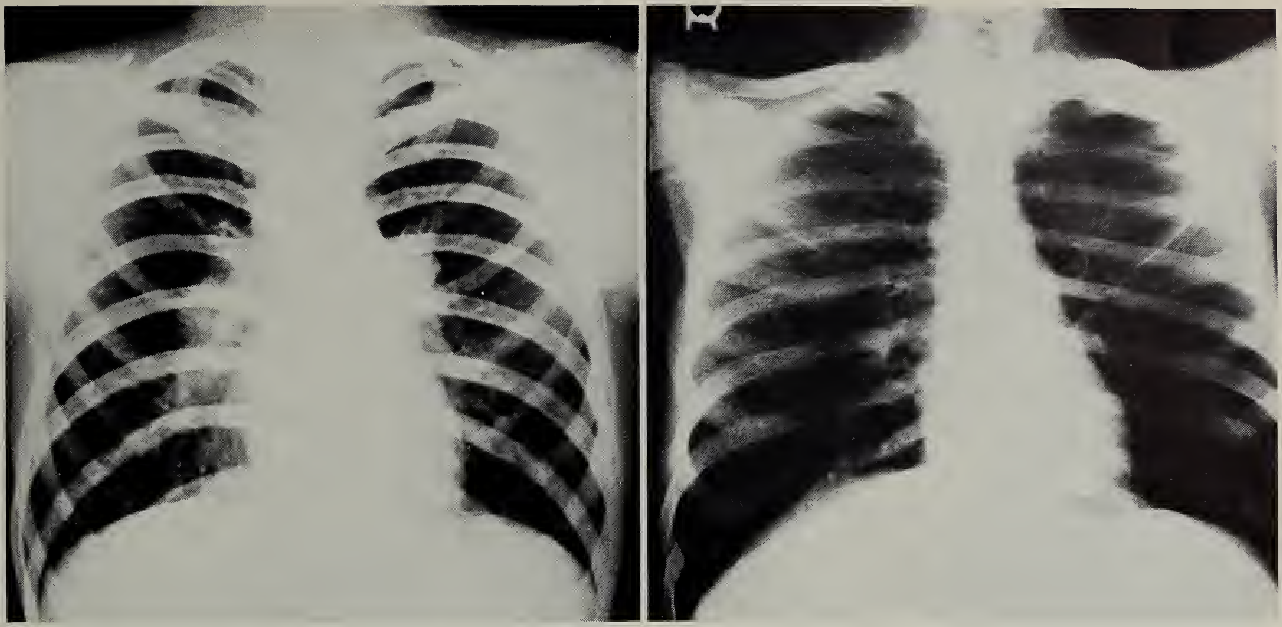

Figure 1.—X-ray film of the chest, showing hilar adenopathy in 1947 on the left and in 1960 on the right.

have fixation of the incus and stapes, and a stapes mobilization operation was performed. He was dealt with as an out-patient by his physician, and later in 1959 was noted to have diffuse calcification of the soft tissues about the ankle joints, the Achilles tendons and the calf muscles, enlargement of the spleen, and leukopenia. He was referred to our clinic and was admitted for further study. In addition to the severe headaches, he complained of difficulty in walking because of inability to bend his ankles. There was no history of excessive milk or alkali intake, or of large doses of vitamin D.

On physical examination the blood pressure was 120/90 mm. of mercury, the temperature 98.6° F. and the pulse rate 80. Hearing acuity was decidedly decreased on the right. The chest was clear to auscultation and percussion and the heart appeared normal. The spleen was palpable 9 cm. below the left costal margin. No adenopathy was present. The soft tissues extending from the midcalves bilaterally to the soles of the feet were firm, and the patient was unable to dorsiflex his feet because of fixation at the ankles. Four days following admission, diplopia developed. Complete paralysis in the area of distribution of the right sixth cranial nerve was noted. The ophthalmologist described extensive discrete, foamy deposits on the conjunctiva and on the gray line of the lower lids. No papilledema was present and the chambers were clear.

The hemoglobin content was 12.8 gm. per 100 cc. and leukocytes numbered 2,500 per cu. mm. of blood—54 per cent polymorphonuclear cells, 32 per cent lymphocytes and 8 per cent eosinophils. The urine reaction for albumin was 2 plus and for sugar negative. The specific gravity was 1.012. Serum calcium was 13.0 mg. per 100 cc. (normal 9 to 11.5) on one occasion and 12.7 mg. on another. Phosphorus content was 5.1 mg. per 100 cc. (normal 3 to 4.5 mg.) and when the determination was repeated was 6.2 mg. Alkaline phosphatase content was 2.3 units, albumin 3.75 gm., globulins 2.85 gm., urea nitrogen 58 mg. and uric acid 8.6 mg. per 100 cc. of blood. The spinal fluid showed normal pressure, protein content of 39 mg. and calcium 4.5 mg. per 100 cc. Bone marrow examination was reported as showing erythrocytic hyperplasia and "maturation arrest" of the granulocytic series at the polymorphonuclear level. The 24-hour urine contained 520 mg. of calcium and 1.04 gm. of phosphorus (normal calcium 50 to 300 mg. and phosphorus 2.25 gm. for 24 hours). Phenolsulfonphthalein excretion was 25 per cent in one hour and creatinine content of the blood was 3.6 mg. per 100 cc.

X-ray examinations showed increased bronchovesicular markings in the peripheral portion of the right upper lung field (Figure 1) and calcification of the soft tissues, especially the Achilles tendons, anterior tibial area and the plantar fascia and ligaments of the foot (Figure 2). Films of the skull showed extensive calcification of the falx cerebri and the tentorium cerebelli as well as the dural lining of both optic foramina (Figure 3). There was no apparent decalcification of the bones; in fact they appeared denser than usual. The lamina dura was observed in the dental films. An intravenous pyelogram showed no concentration of the dye after 90 minutes, and no calcification was seen within the kidney parenchyma.

To further evaluate the kidneys, a renal biopsy was done, and the pathologist reported extensive focal calcification (nephrocalcinosis). Almost all the glomeruli were completely obliterated by laminated and hyalinized fibrous scar tissue (Figure 4). Upon review of the case, sarcoidosis was considered and a scalene node biopsy was obtained. The pathologist reported a noncaseous granuloma

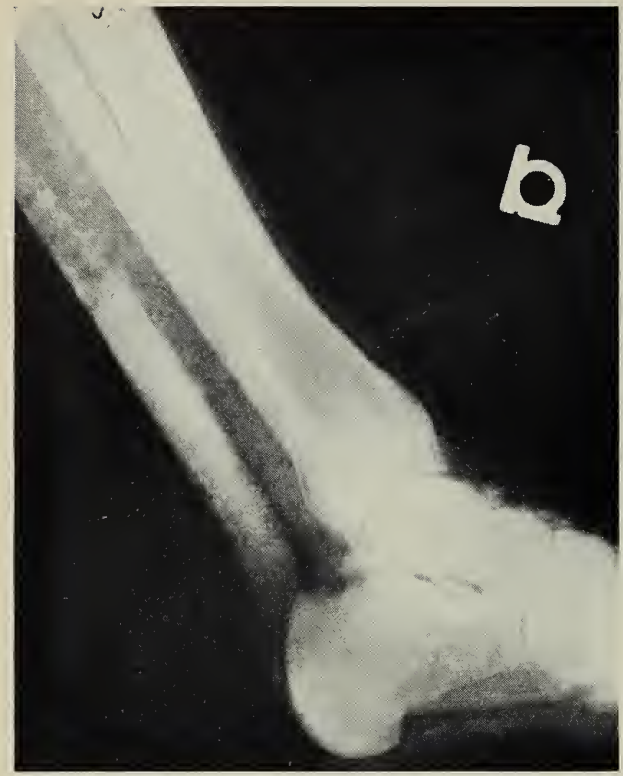

Figure 2.—X-ray film showing calcification in the soft tissues of the foot.

of the lymph node, consistent with sarcoid (Figure 5). Results of tuberculin tests were negative. A diet low in calcium and phosphorus was prescribed and the serum calcium decreased to 10.8 mg. and phosphorus to 4.8 mg. per 100 cc. in 12 days. The 24-hour urine calcium secretion was 213 mg. Administration of prednisone, 20 mg. daily, was then started. The headaches decreased in severity, and in five weeks were entirely gone. The spleen was no longer palpable. At the end of six weeks the patient was able to move the right eye laterally without difficulty. The serum calcium fell to 9.1 mg. and the phosphorus to 4.1 mg. per 100 cc. The 24-hour urine calcium was 152 mg. and blood urea nitrogen was 47 mg. per 100 cc. The dose of prednisone was reduced to 5 mg. daily.

In three months the serum calcium had reached a low of 8.9 mg. and the blood urea nitrogen 43 mg. per 100 cc.

The serum calcium had been maintained at between 9 and 10 mg. per 100 cc. for more than a year; then shortly before this report it began to rise. No Prednisone had been given for 11 days at the time of the rise in serum calcium. Therefore administration of it was resumed, first 5 mg. daily, then 10 mg. when the calcium level reached 11.0 mg. per 100 cc.

At the time of this report the patient was free of symptoms except for some difficulty in walking. Hemoglobin was 13.1 gm. per 100 cc. of blood, leukocytes numbered 5,350 per cu. mm. and serum calcium was 9.1 mg. per 100 cc.

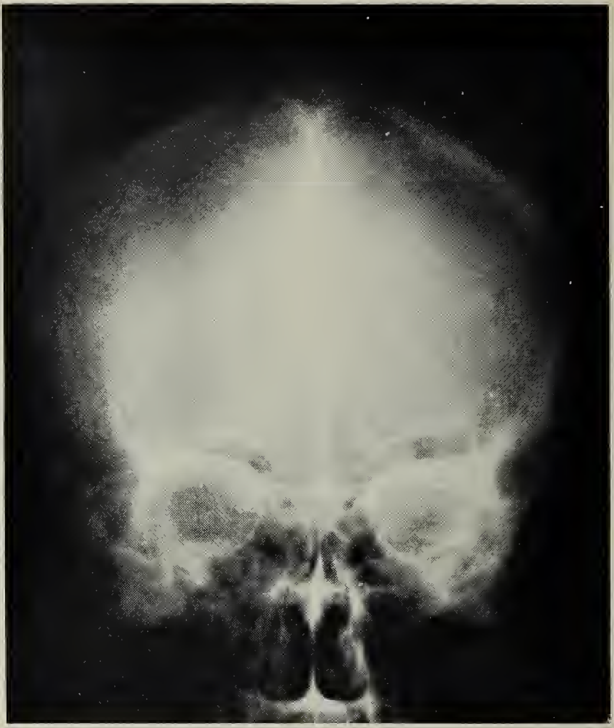

Figure 3.—X-ray film of the skull, showing extensive intracranial calcifications.

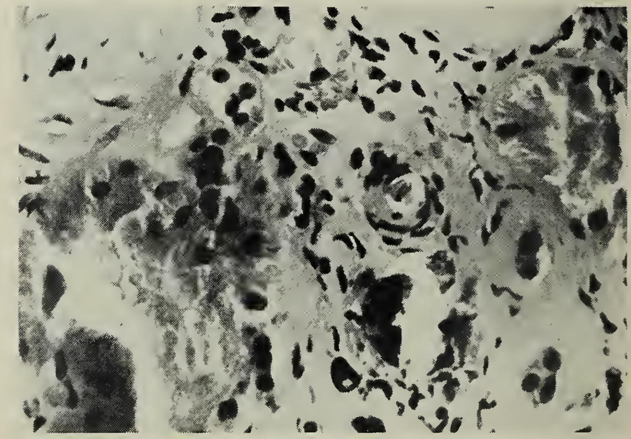

Figure 4.—Section of renal biopsy specimen (×100), showing nephrocalcinosis and hyalinized glomeruli.

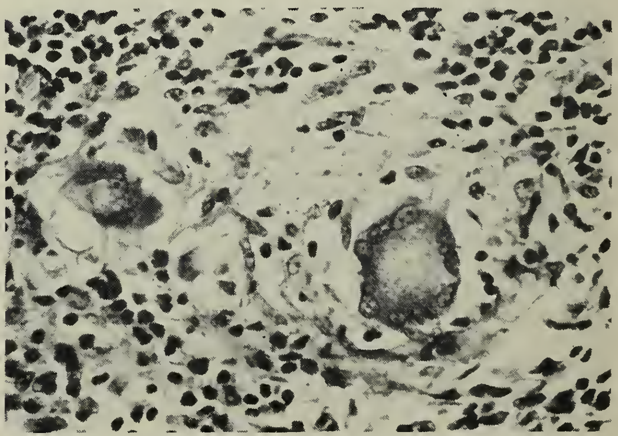

Figure 5.—Section of scalene lymph node (×100).

COMMENT

When this patient was first seen by us in 1960, he presented a perplexing problem of hypercalcemia, renal disease and extensive metastatic calcification. For many years he had been treated for what appeared to be chronic glomerulonephritis, and had been studied on several occasions for the possibility of cerebral lesion because of severe headaches, nausea and vomiting. The differential diagnosis of hypercalcemia may become very difficult, as it can occur in many diseases such as hyperparathyroidism, vitamin D intoxication, sarcoidosis, multiple myeloma and various malignant tumors, and the blood chemical features in these conditions may be confusingly similar.[19,20] The added complication of renal insufficiency with azotemia, as was seen in this patient, can further disturb the calcium and phosphorus levels, making the relationship of these ions of little value in differential diagnosis. The history of the patient, therefore, became important, and in view of the hilar densities seen in 1947, led to the suspicion of sarcoidosis. Although no lymphadenopathy was present on physical examination, the scalene node biopsy was fruitful in establishing the diagnosis. Renal biopsy revealed the true nature of the kidney disease by demonstrating the presence of the nephrocalcinosis which was not apparent by roentgenographic studies.

Nephrocalcinosis, renal calculi and corneal deposits are common ectopic calcifications in sarcoid. These may be the only presenting signs, and nausea and vomiting the only symptoms suggesting hypercalcemia. In mild hypercalcemia the calcium deposits in the eye may be the only clue to its presence.[4] This patient had unusually extensive calcification, involving structures within the skull and in the extremities. The calcifications of the lower extremities made it very difficult for the patient to walk because of the fixation of his feet at the ankle. By palpation it was hard to distinguish between these calcifications and the bones of the lower legs and feet. On x-ray the calcium deposits appeared almost as dense as the bones.

The headaches and sixth cranial nerve palsy in this patient were also outstanding symptoms. Sarcoid lesions of the nervous system are common in the cranial and peripheral nerves,[12] the seventh being the most frequently involved. Also posterior fossa and the hypothalamic-pituitary area are frequently involved.[18] The headaches and nerve palsy could be explained on the basis of granulomas in these areas, but the extensive calcifications around the brain may also have contributed to these symptoms. The deafness was also probably due to calcification immobilizing the bones of the inner ear. It has also been noted that hypercalcemia itself may be associated with neurological symptoms and elevation of the protein in the cerebrospinal fluid.[6] In the present case the protein and calcium contents of the spinal fluid were within normal limits.

Extensive calcifications have also been noted in vitamin D intoxication,[13,21] and the calcium disturbance in sarcoid is thought by some investigators to be secondary to a vitamin D sensitivity, resulting in increased absorption of calcium from the intestine.[8,10] The sequence of events leading to metastatic calcification (as ascribed to the first action of vitamin D by Albright and Reifenstein) may be increased calcium absorption, increased serum phosphorus levels, and a supersaturation of blood with respect to calcium phosphate, and its deposition in the tissues.[1,21] The renal insufficiency may also contribute to the elevated phosphorus. The early treatment of the patient with cortisone probably arrested the sarcoid, but not completely, so that a constant hypercalcemia persisted over the 13 years and the calcium deposits slowly built up to their present state. Although cortisone will reduce the hypercalcemia in sarcoid, some patients require maintenance therapy to keep the level within normal limits.[16] When steroids were stopped in this patient, serum calcium rose, then returned to lower levels after administration of prednisone was resumed. Improvement in renal function with steroid therapy has been reported even though renal calcinosis, as shown by serial biopsy,[5] remained unchanged. Correction of the hypercalcemia seems to be an important factor in the improvement,[5,7] provided extensive irreversible damage has not been done. Following steroid therapy, the patient in the present case had a reduction in serum calcium and blood urea nitrogen despite metastatic calcifications and severe renal damage from nephrocalcinosis. Absorption of peripheral ectopic calcifications with cortisone treatment has been reported,[2] and it will be of interest to observe this patient for resorption of the extensive calcium deposits.

SUMMARY

A case of sarcoidosis with renal insufficiency, nephrocalcinosis and extensive cerebral and peripheral calcifications is reported. The value of the history, renal and scalene node biopsy in addition to blood chemical determinations in making the diagnosis is emphasized.

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Vitamin D Intoxication

JAMES A. SALMONS, M.D., Santa Cruz

HYPERCALCEMIA associated with renal insufficiency has been reported in numerous conditions such as vitamin D intoxication,[1,6] hyperparathyroidism,[3] acute osteoporosis,[2] sarcoidosis,[3,9,10] carcinomatosis with bone involvement,[3,12] multiple myeloma[3,11] and the "milk-alkali syndrome."[4] In 1942, two of the earliest cases in the literature of vitamin D poisoning in adults were described by Tumulty and Howard.[13] Since that time many reports have appeared and the clinical picture has been well described, particularly by Howard and Meyer[8] in 1948, and Chaplin and others in 1951.[7] Despite its toxicity, vitamin D still is sometimes used with little or no justification in conditions such as sarcoidosis, asthma, psoriasis and rheumatoid arthritis, and often results in poisoning. In addition, the general availability of highly concentrated preparations of vitamin D[7] has led to intoxication from self medication. Vitamin D intoxication has also been reported when the substance was being used for specific deficiency states such as osteomalacia secondary to steatorrhea and hypoparathyroidism after thyroidectomy.[5]

In the following case vitamin D intoxication occurred in a case in which a highly concentrated vitamin D product, Darthronol,®* was administered in the treatment of a musculoskeletal condition resembling early rheumatoid arthritis.

REPORT OF A CASE

An insurance broker, age 33, otherwise in excellent health, consulted a physician November 6, 1958, because of pain in the forearms, wrists and hands. Darthronol® was prescribed, one tablet (50,000 units) the first day, two tablets the second, and then three daily. After a week of this therapy, the author examined the patient in consultation, and at that time he was complaining of general malaise, headaches, vertigo and pronounced polyuria and polydypsia. Upon physical examination in the office no abnormalities were noted. The urine had specific gravity of 1.009, an acid reaction and a negative reaction for albumin and sugar. On microscopic examination an occasional erythrocyte, 2 to 5 leukocytes and a moderate number of granular casts per high power field were noted. The Sulkowitch reaction was four plus. Vitamin D intoxication was suspected and the patient was advised to stop taking Darthronol®, to ingest no dairy products and to drink 2,500 to 3,000 cc. of plain liquids every 24 hours. He was again seen in his home two days later and the symptoms of headache and vertigo with nausea and vomiting persisted. Serum calcium at that time was 14.1 mg. and inorganic phosphorus content was 1.2 mg. per 100 cc. Because of the persistence of symptoms, the patient was admitted to the hospital for further observation and treatment.

On admission he was nauseated, but not in acute distress. The oral temperature was 98° F., the pulse rate 80 with regular sinus rhythm, respirations 20 per minute and blood pressure 140/90 mm. of mercury. Deep tendon reflexes were hypoactive to absent. The plantar response was flexor. Otherwise

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From the Santa Cruz Medical Center, Santa Cruz.

Submitted August 15, 1961.

*Darthronol; J. B. Roerig Co., Division Chas. Pfizer, Inc., N. Y.

the results of physical examination were within normal limits.

The hematocrit was 48. Leukocytes numbered 10,800 per cu. mm. with 5 per cent eosinophils. The urine, which was clear, had a pH of 7.2, a trace reaction for albumin, a Sulkowitch reaction of two plus and 3 to 5 leukocytes per high power field. Blood urea nitrogen was 115 mg. per 100 cc.; creatinine, 8 mg. per 100 cc.; carbon dioxide combining power 28.4 mEq per liter; chlorides, 105 mEq per liter; calcium, 13.5 mg. per 100 cc.; phosphorus, 3.8 mg. per 100 cc.; phosphatase, 1.3 Bodansky units. Phenolsulfonphthalein excretion was 10 per cent at 15 minutes, 17.5 per cent at 30 minutes, 22.5 per cent at 60 minutes and 37.5 per cent at 120 minutes. Three lupus erythematosus test preparations were negative for LE cells. Results of a rheumotoid slide test were negative. Creatinine clearance was 45 cc. per minute. Serum sodium was 136 mEq per liter; potassium, 4.6 mEq per liter; total protein, 7.7 gm. per 100 cc.—4.5 gm. of albumin and 3.2 gm. of globulin.

A diet containing 125 mg. of calcium and about 4,000 cc. of fluids was provided and within three days blood urea nitrogen was 82 mg., creatinine 3 mg., calcium 12.9 mg. and phosphorus 2.9 mg. per 100 cc. Urinary calcium excretion in 24 hours varied from 450 mg. to more than 600 mg. All dairy foods were excluded from the diet, and cortisone, 10 mg. daily was given for two days, then prednisone in dosage of 30 mg. daily, which was reduced to 10 mg. daily over the last four days in hospital. On the day of discharge, ten days after admission, creatinine clearance was 73 cc. per minute; blood urea nitrogen content was 45 mg., creatinine 1.7 mg., calcium 10.7 mg., phosphorus 2.8 mg. and uric acid 5.1 mg. per 100 cc. Calcium excretion in 24 hours was 84 mg. At the time of discharge, the patient was asymptomatic.

However, although the diagnosis at the time seemed reasonably clear, it was felt that hyperparathyroidism could not be completely excluded, and the patient was kept under observation for some 18 months after the initial episode of illness. Three months after the onset of the previously described symptoms, the urine was normal and the blood urea nitrogen was 14.9 mg. per 100 cc. Twenty-seven months after the onset of illness, the urine continued to remain normal, the Sulkowitch reaction was well within normal limits and the blood urea nitrogen was 12 mg., serum calcium 10.6 mg. and phosphorus 4.0 mg. per 100 cc. Total protein content was 6.6 gm. per 100 cc.—3.6 gm. albumin and 3.0 globulin.

DISCUSSION

The clinical manifestation of vitamin D poisoning is owing to hypercalcemia, *per se,* and to renal failure. The former causes fatigue, depression and loss of weight, and renal failure causes polyuria, with a low specific gravity of urine and a rise in the blood urea nitrogen. Although a normocytic, normochromic anemia may appear in association with the uremia, this did not occur in this case. Vitamin D poisoning may also result in metastatic calcification, affecting not only the kidneys but other organs as well—such as the eye, where ocular deposits and keratitic bands may form. An intravenous pyelogram and x-ray films of the bones showed no evidence of demineralization in this case. Albright and Reifenstein[3] expressed belief that poisoning is due primarily to vitamin D promoting absorption of calcium from the bowel, with hypercalcemia a consequence, then depression of the parathyroid glands, a decrease in urinary phosphorus excretion, and so hyperphosphatemia.

SUMMARY

In a case of vitamin D poisoning herein described, the initial diagnosis for which the patient was being treated with this substance was in doubt. Prompt discontinuance of the drug resulted in the patient's early and complete recovery.

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California
MEDICINE

For information on preparation of manuscript, see advertising page 2

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EDITORIAL

Medical Aid to the Aged

For the past several years we have been encountering a growing display of concern over the well-being of our older citizens, with reference particularly to their health care needs.

This concern has progressed to the point where the "over 65" individual has become a prime political figure, an object of professional political interest.

For whatever reason—probably because the Social Security laws selected it as the age for retirement—there seems to be an inspired notion that age 65 is a dividing line between active citizens and abject, poverty-stricken ill persons whose only resource is the public treasury.

This concept has been heatedly debated by physicians, who realize that chronological and physical age may have no relationship to each other. Nevertheless, with age 65 on the statute books as the age of retirement, of withdrawal from the community of earners, the American public has had this number engraved indelibly as *it*.

Politicians of all orders have reason to recognize the fact that those people above age 65 may be retired, may have leisure time and may have demands to make on the government. These people also have one vote each. Hence, the time-serving politician who can promise and deliver a financial windfall to such people can rather factually expect that they will remember his name when they next go to the voting booth.

If this sounds cynical, we should consider the fact that the benefits under the Social Security laws have been increased every two years for a good many years back. The years in which such benefits have been enlarged have happened to be the years in which general elections are scheduled. The person who is retired and is drawing Social Security benefits is, every two years, handed an increase in his allowance. The cost of the increase is met by increased taxes of those under 65 who are required to pay taxes into the fund.

Medicine as a profession has not been too keenly aware of this progressive increase until recent years. More than likely, physicians have been unaware of what was going on for the reason that most physicians are not themselves covered by Social Security and have not been paying out in their own behalf the ever-rising taxes needed to carry the ever-rising benefit payments.

Several years ago the Congress voted a huge sum of money to be subvented to the states, where it was to be matched and the combined sum spent to provide certain medical benefits to those citizens listed on the welfare rolls. This was known as OAA, or Old Age Assistance. The cry that went up from physicians at that time is still echoing throughout the land. In California, physicians in several areas voted to forego all fees for the care of these needy people rather than submit to governmental control.

This clamor and this direct action have largely disappeared today, doubtless because physicians as a whole have accepted the responsibility of furnishing care for their older needy patients, regardless of the conditions imposed by the politicians.

More recently a demand has been built up in Washington for a system of furnishing hospital and nursing home care to those people over age 65 who are recipients of Social Security benefits. The Social Security System, under these proposals, would become a furnisher of services rather than cash. Very little imagination is needed to project such a system into the provision of one more service tomorrow and another the next day or the next week.

Since every person confined to a hospital or a nursing home must have medical attention, it is only natural for physicians to figure that where the institutional services would be provided as a starter, professional services would be next in line for inclusion in a governmental plan.

In 1960 the Congress enacted a law which approached the problem of medical assistance to the aged from another angle. It adopted the Kerr-Mills Bill, which made money available to those states which would furnish matching funds. The states could then, in their own wisdom, provide such medical care services for needy oldsters as were determined proper in each state.

California quickly provided for funds to match federal funds under this law and today we are seeing the second title of the law going into effect. Rather than limiting the beneficiaries of this law to those people drawing Social Security payments, the law says that all persons above age 65 who are in need of medical care and who appear unable to meet the costs of such care may apply for it. Such people do not have to be drawing Social Security benefits. They do not have to be indigent. The only test put on them is the determination that the proposed medical care costs are beyond their means.

This is known now as MAA—Medical Assistance to the Aged.

As happened a few years ago, when the OAA law went into effect, some physicians are again raising doubts about this program and threatening to withdraw their services from this area. Each physician is entitled to his own opinion of the law and his own decision as to whether or not to participate.

At this time, however, a new factor enters the scene. This is simply the matter of what will face the profession if the MAA program is not supported.

The answer seems obvious. Those politicians pushing for an extension of the Social Security laws, under Washington control, will simply say that "the doctors won't perform" under the present law and, therefore, a new law is needed. The new one would supplant local and state determination with additional administration from Washington which would level all people, all states, all physicians.

Physicians may well be unhappy to see their individual freedoms and prerogatives being nibbled away. At the same time, they must realize that this is a part of the national economic scheme and that their best procedure is to go along with the program and guide it rather than opposing it futilely.

In plain language, the physician today is faced with making one choice. Shall it be King-Anderson (Social Security) or Kerr-Mills (MAA)?

Stated another way, shall it be home rule and local determination or shall it be Washington bureaucracy?

The President's Page

Pork Barrels and Health

We starve our conscience when we thrive in politics.
—SHIRLEY, 1641

THE HEALTH PROFESSIONS OF AMERICA are on the verge of being converted into the greatest government subsidized give-away in American history—and for no other reason than plain ward politics. How can this be accomplished? Very simply, by passing the bill that places health service, hospitals, pharmacies, doctors, under the social security payroll tax system—the King-Anderson scheme! It can be stopped only by the united actions of all those Americans who will become informed and speak out of the dangers and spread the truth.

What is the truth? First, our aged as a group are not destitute and disease-ridden. The large majority are economically self-sufficient and resourceful. Twenty-five per cent are even working; their adjusted net income is $5,500 per year; 60 per cent have health insurance, 65 per cent own homes free of mortgage, 80 per cent consider themselves healthy and 70 per cent of their adult children believe they have no unmet medical needs!

And as if this were not enough, admire the vast trends, American style, that are even further securing the health of this and all groups: the bursting increase in health insurance, its provision by management, labor and all levels of government for employees—extending into retirement. Note the already massive medical facilities available to all veterans. Do not overlook the generous medical coverage available to the labor-union groups, or that which is provided for the poor—through medical schools, county hospitals, clinics.

But, you ask, how about the fate of the older couple of modest resources whose financial independence has suffered a crushing blow from a major illness? What will save them from permanent poverty?* The new Medical Assistance for the Aged (Kerr-Mills) Law, of course. Sponsored by your medical society, it is designed to remove the remaining unmet medical need of the aged.

And yet, the socializers still cry crisis, wanting to press the panic button to mobilize a vast new government tax and subsidy program to save the day! Never forget, Social Security is supported by payroll taxes; it is not insurance. A modest estimate of the ultimate cost of this hysterical phantasy is 16 billion annually. This not only will jeopardize the whole social security system and will have to be supported from the general tax revenues, but will extend federal control, patronage systems and pork-barreling as the bureaus and politicians vie for the disbursement of the billions of dollars.

Snuffed out in the mad grab will be the individual patient, the personally responsible physician, quality medicine. Voluntary health insurance withers and dies; hospitals are captured by red tape; the entire population, all, is enfolded in a vast, inflexible, impersonal federal system, thus crushing experimentation, and destroying personal decision, responsibility and dignity.

And this may well happen to your America, your patients, your profession—if you don't arise. Let all of America know the truth instead of hearing lies, let her understand the virtue of the new Medical Assistance to the Aged Law, instead of being duped by the sham of the social security tax scheme.

We are working with our numerous friends and allies and are in constant contact with Congress. It is up to all our members to keep alert, to read and understand the literature your medical society is constantly sending you, and to be ready to defend your position before all, with honesty, truth and compassion. If you will do that, America will win; if you don't, she will tragically lose!

Warren L. Bostick M.D.

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*See *Health Security, American Style,* CALIFORNIA MEDICINE, Sept. 1961, page 185.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Tentative Draft: Minutes of the 475th Meeting of the Council, Los Angeles, Biltmore Hotel, December 9, 1961.

The meeting was called to order by Chairman Sherman in the Galeria Room of the Biltmore Hotel, Los Angeles, on Saturday, December 9, 1961, at 10:00 a.m.

Roll Call:

Present were President Bostick, President-Elect Wheeler, Speaker Doyle, Vice-Speaker Heron, Secretary Hosmer, Editor Wilbur and Councilors MacLaggan, Wilson, Todd, Quinn, O'Neill, Kirchner, O'Connor, Ham, Rogers, Dalton, Murray, Davis, Miller, Sherman, Morrison, Kaiser, Anderson and Teall. Absent for cause, Councilor Campbell.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Marvin, Whelan, Klutch, Tobitt, Clark and Bowman, Dr. Miller and Mrs. Griffith of C.M.A. staff; Messrs. Hassard and Huber of legal counsel; Messrs. Read, Salisbury and Fraser of the Public Health League, county society executives Scheuber of Alameda-Contra Costa, Lingerfelt of Fresno, Geisert of Kern, Field and Dalbec of Los Angeles, Somerville of Napa, Bannister of Orange, Donmyer of San Bernardino, Nute and Burris of San Diego, Neick of San Francisco, Grove of Monterey, Thompson of San Joaquin, Wood of San Mateo, Donovan and Colvin of Santa Clara, Blankfort of Marin, Brown of Sonoma, Bailey of Tulare and Rideout of Butte-Glenn; Dr. Malcolm Merrill of the State Department of Public Health; Dr. Lester McDonald and Mrs. Eunice Evans of the State Department of Social Welfare; Dr. Norman Brill of the State Department of Mental Hygiene; Dr. T. Eric Reynolds and Messrs. Paolini and Purdy of California Physicians' Service; Doctors Gerald W. Shaw, Robb Smith and others.

1. *Minutes for Approval:*

On motion duly made and seconded, minutes of the 474th Council meeting, held November 11, 1961, were approved.

2. *Membership:*

(a) A report of membership as of December 6, 1961, was submitted and ordered filed.

(b) On motion duly made and seconded, seven delinquent members, dues now paid, were voted reinstatement.

(c) On motion duly made and seconded, Dr. Anna Catherine Stous of Alameda-Contra Costa County was voted Associate Membership.

(d) On motion duly made and seconded in each instance, Doctors Albert M. Meads of Alameda-Contra Costa County, Donald C. Fowler of Marin County and William H. Geistweit, Jr. of San Diego County were voted Retired Membership.

(e) On motion duly made and seconded, two members were voted a reduction of dues because of illness or postgraduate study.

3. *State Department of Public Health:*

Dr. Malcolm Merrill, State Director of Public Health, reported on regulations adopted by the de-

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OMER W. WHEELER, M.D.	President-Elect
JAMES C. DOYLE, M.D.	Speaker
IVAN C. HERON, M.D.	Vice-Speaker
SAMUEL R. SHERMAN, M.D.	Chairman of the Council
RALPH C. TEALL, M.D.	Vice-Chairman of the Council
MATTHEW N. HOSMER, M.D.	Secretary
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partment concerning radiation regulations and reported also that supplies of influenza vaccine were improving despite there still being some question as to their adequacy in case of real need.

4. *State Department of Social Welfare:*

Mrs. Eunice Evans of the State Department of Social Welfare reported that plans are being developed to permit the inauguration of the Medical Assistance to the Aged program on January 1. Mrs. Evans also reported on the reduction of benefits under the Aid to Needy Children program and explained that available funds for this program are at a relatively low level.

5. *State Department of Mental Hygiene:*

Dr. Norman Brill of the State Department of Mental Hygiene reported that the department was planning workshop meetings on the psychological aspects of automation. He also stated that a study is being planned on the production and distribution of psychiatrists throughout California.

6. *California Physicians' Service:*

Dr. John Morrison reported that state civil service authorities had selected only the B schedule of C.P.S., with a $6,000 annual income ceiling, as suitable for offering to state employees, whereas both the B and D schedules had been offered.

On the Medical Aid to the Aged Program, Dr. Morrison reported that C.P.S. was offering its services in those counties where other welfare medical care plans are being served by C.P.S.

Dr. Morrison further reported that experience under the psychiatric care and home nursing program entered into by C.P.S. on an experimental basis had been very good and that the organization planned to continue these programs another year to gain additional experience.

7. *Report of the President:*

President Bostick reported on his recent visits in several counties and reported further that the American Hospital Association was planning a special meeting of its House of Delegates to reconsider its position on pending federal legislation. (King-Anderson Bill.)

8. *Committee for Emergency Action:*

Dr. Bostick reported that the Committee for Emergency Action had met to review the public relations activities of the Association and had agreed that a major effort should be made to study all phases of communications, including the format, readership and other factors of the present *Newsletter*. The Bureau of Research and Planning will handle part of this work, he stated, and outside counsel would be sought for additional parts. Outside counsel will also be sought for other public relations studies and a later report will be made.

9. *Chamber of Commerce Meetings:*

Councilors Rogers, Ham and Todd reported on recent meetings held by the California State Chamber of Commerce and the Chamber of Commerce of the U. S., at which opposition had been expressed to proposals to place medical assistance to the aged under Social Security laws. The national organization held meetings in both Berkeley and Los Angeles.

10. *A.M.A. Delegation:*

Dr. Wilbur reported for the A.M.A. Delegation on the recent Denver meeting and on progress made in promoting the interests of the American Medical Political Action Committee. He also reported on a planned meeting between the A.M.A. Board of Trustees and the Board of Regents of the American College of Surgeons relative to recent public releases.

Dr. Wilbur paid tribute to three A.M.A. Delegates who retired in 1961, Doctors Sam J. McClendon, Frank A. MacDonald and Paul D. Foster, who amassed about 40 years of service in the A.M.A. House of Delegates.

11. *Ad Hoc Committee:*

Dr. Bostick presented a detailed report of the ad hoc committee to review the report and recommendations of the Committee on Continuing Education and Scientific Activities. The Council reviewed each item, together with recommendations of the ad hoc committee and, on motion duly made and seconded, voted to approve this report in principle and to ask several committees to study various portions of it and report back to the Council at the March 1962 meeting.

12. *Committee on Mental Health:*

Dr. Stuart Knox reported on a meeting held with representatives of several mental hygiene organizations and requested time to present a detailed report before the meeting of officers of county medical societies scheduled for February, 1962. The Council was informed that the program for this meeting had already been made and approved; on motion duly made and seconded, it was voted to refer Dr. Knox's proposal to the staff to be worked out.

13. *Report of the President-Elect:*

Dr. Wheeler reported on his impressions gained from several meetings he has recently attended.

For the Committee on Committees, Dr. Wheeler proposed the names of Ernest Henderson and Walter Beckh to be added to the nominees supplied to

Selective Service for choice of a medical advisor for northern California.

14. *Finance Committee:*

Dr. Teall, chairman of the Finance Committee, presented a current financial report, which was accepted and ordered filed.

Dr. Teall discussed the conference of county officers planned for February, 1962, and the proposal that preluncheon refreshments on February 17 be on a pay-as-you-go basis. On motion duly made and seconded, it was voted to eliminate free refreshments at this meeting.

On motion duly made and seconded, it was voted to appropriate an additional $2,347 to cover the cost of this conference.

Dr. Teall also presented a set of rules to govern commissions and committees in the preparation of budgets. These were accepted.

Dr. Teall also reported that Central California Blood Bank, which is indebted to the Association, had offered to pay the complete balance on an original obligation of $100,000 if the savings effected by the Association's having purchased an $80,000 note for $65,000 could be passed along to the blood bank. The Finance Committee was not prepared to report on this item at this time, he said, but would meet later and make a report to a subsequent meeting.

15. *Committee on Other Professions:*

Dr. Murray reported on a meeting held by the Committee on Other Professions with the similar committee of the California Pharmaceutical Association for the discussion of such items as physician-owned pharmacies, dispensing of dangerous drugs and similar topics.

16. *Committee on Legislation:*

Mr. Ben Read gave a progress report on recent hearings by legislative interim committees, covering such subjects as adoptions and the dispensing and control of drugs of various types.

17. *C.M.A.-C.P.S. Liaison Committee:*

Dr. Anderson reported that various multi-state groups had requested C.P.S. coverage to be placed under a $7,500 income ceiling, which would permit a contract using a 5 factor on the 1960 Relative Value Studies. On motion duly made and seconded, this offering was approved.

Dr. Anderson also asked approval of a "B prime" fee schedule for C.P.S. to be based on a 4 factor of the 1960 Relative Value Studies. On motion duly made and seconded this was approved.

Dr. Anderson further reported that various suggestions had been presented for strengthening the professional relations activities of C.P.S. and asked authority to transmit these suggestions to C.P.S. On motion duly made and seconded, this procedure was voted approval and the committee was directed to continue exploring suggestions which may benefit C.P.S.

18. *Bureau of Research and Planning:*

Dr. Gerald Shaw reported that the Bureau of Research and Planning has now completed 12 reports on various subjects and the resources of the board are available for the commissions and committees on request for special studies.

19. *Speakers' Bureau:*

Dr. Teall reported that progress has been made in the Speakers' Bureau to the point where speaking engagements are now being sought. Mr. Frank Clark was introduced to the Council as a new employee for the bureau, with the assignment of securing speaking engagements and publicizing them.

20. *Committee on Adoptions:*

Mr. Whelan presented copies of a statement filed in behalf of the Committee on Adoptions with a legislative interim committee. This statement was accepted by the Council with thanks.

21. *Commission on Community Health Services:*

Dr. MacLaggan reported that the health column service for newspapers had exhausted the budget and that another $5,000 to $6,000 would be required to carry out this activity for the balance of the fiscal year. He was assured that the program would be continued and needed funds appropriated later.

Dr. MacLaggan also presented a statement of policy relative to establishment of new medical schools, which, on motion duly made and seconded, was voted approval.

22. *Dangerous Drugs:*

A resolution adopted by the Council of the Los Angeles County Medical Association relative to the control of prescriptions for dangerous drugs was read to the Council. On motion duly made and seconded, this item was referred to the Committees on Legislation and on Dangerous Drugs for further study.

23. *Funds for Medical Scholarships:*

Mr. Hassard reviewed earlier Council actions on proposals to establish scholarships or loan funds for medical students. This was referred to the Committee for Medical Education, which has reported its inability, in terms of facilities and personnel, to give the matter proper consideration. Mr. Hassard suggested this proposal be withdrawn from this committee and placed elsewhere. On motion duly made and seconded, it was voted to withdraw this matter from the committee and refer it to the Committee for Emergency Action.

24. *California Society of Internal Medicine:*

Secretary Hosmer read a commendatory resolution of the California Society of Internal Medicine, praising the Association for its activities in behalf of internal medicine in dealings with the state programs for medical care to the aged. It was moved, seconded and voted to thank the society for its resolution and to keep it advised on further developments in this field.

25. *Legal Department:*

Mr. Hassard reported on a request from Santa Cruz County for appointment of a team to look into the county hospital situation because of the limited participation of physicians in the care of patients and the training of house staff physicians. Such a team was appointed and, at the time of this report, was in Santa Cruz in behalf of the county medical society, the county hospital and the county board of supervisors.

Mr. Hassard also reported that in some areas medical malpractice insurance coverage had been extended to cover physicians for actions resulting from committee activities.

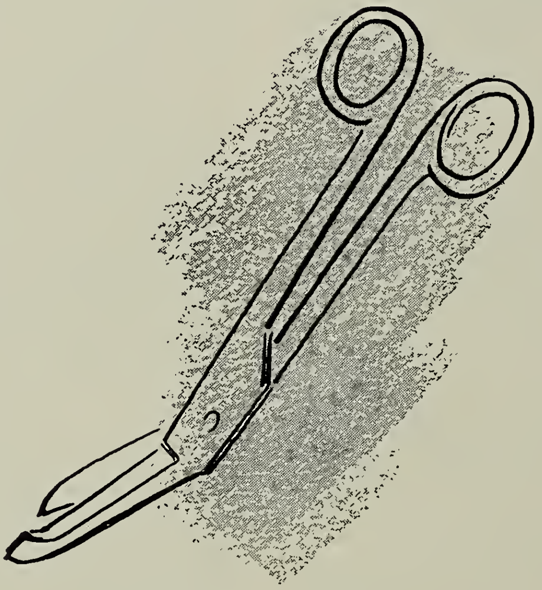
26. *Laboratory Reports:*

Dr. Bostick commented on state regulations which seek to obtain from laboratories their findings on patients referred by private physicians and pointed out some areas of difficulty if such regulations are to be enforced. On motion duly made and seconded, it was voted to refer this to the Commission on Community Health Services.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 4:20 p.m.

SAMUEL R. SHERMAN, M.D., *Chairman*
MATTHEW N. HOSMER, M.D., *Secretary*



No. 5*

The Rural Occupational Health Paradox

Paradoxically, rural areas have more problems in industrial medicine than the highly industrialized urban centers. This is due to the wide range of occupations and the lack of standardized procedures in caring for the industrially injured patient.

The diversity of employment is particularly high in areas which have construction, agricultural, lumber or mining operations, and small industrial plants. Each has its own peculiar occupational hazards and problems. Small industrial plants in outlying areas seldom justify medically staffed in-plant programs. Many have no medical plan of any type.

In construction, agriculture, lumbering and mining operations the interest of occupational medicine extends to the socioeconomic concerns of seasonal employment, temporary and inadequate housing and migratory patients with poor standards of hygiene, nutrition and education. Reemployment after recovery from injury or illness is difficult because of the rigorous demands of such industries and the absence of sedentary job classifications.

Since these areas are remote from the head office of the compensation insurance carrier, communications between the doctor and the company are difficult and often unsatisfactory, resulting in misunderstanding and loss of confidence. There is need for better communication between insurance carriers and the physicians in rural areas so that each may understand the problems of the other, thereby improving the care of the occupationally injured patient.

What steps may the rural physician and his county society take to help solve some of these problems? Obviously those relating to the seasonal employment, migratory populations and inadequate education and housing are not to be solved by the medical profession alone. We can express and indicate willingness to cooperate in improving these conditions. We can also indicate our awareness of the importance of these factors in the handling of industrial patients and in their reemployment.

Certain positive actions may be taken to make rural industrial practice more efficient and to improve physician-patient-employer relationships:

1. Encourage small industrial plants, seasonally operated mills, canneries and larger farm labor employers to designate and utilize part-time medical directors in handling their occupational medical problems.
2. Maintain, at the county society level, an up-to-date roster of physicians willing and qualified to treat occupational injuries and illnesses.
3. Through the county society Occupational Medicine Committee, notify the larger insurance carriers of the roster.
4. Notify employers and insurance carriers of the existence of the county society Occupational Medicine Committee and its willingness to cooperate in problems of coverage, reemployment evaluation, insurance utilization and similar matters.
5. Use the county medical society Occupational Medicine Committee to continually advise the society regarding industrial accident procedures and the existence of unusual conditions in regional occupational medicine.

Committee on Occupational Health
California Medical Association

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*This is the fifth of a series of articles prepared by the Committee on Occupational Health.

NEXT MONTH: **"RELEASE FOR WORK"**

Ninety-first Annual

CALIFORNIA MEDICAL ASSOCIATION

APRIL 15-18, 1962

SIX OUTSTANDING GUEST SPEAKERS

Surgery

MICHAEL E. DeBAKEY, M.D., Professor and Chairman of Department of Surgery, Baylor University College of Medicine, Houston.

Anesthesiology

ARTHUR S. KEATS, M.D., Professor of Anesthesiology, Baylor University College of Medicine, Houston.

Pathology

MALCOLM B. DOCKERTY, M.D., Surgical Pathologist, Mayo Clinic, Rochester.

Internal Medicine

E. GREY DIMOND, M.D., Director, Institute for Cardiopulmonary Diseases, Scripps Clinic and Research Foundation, La Jolla.

Cardiovascular Research

LOUIS N. KATZ, M.D., Director of Cardiovascular Research, Michael Reese Hospital and Medical Center, Chicago.

Pediatrics

ALEXANDER S. NADAS, M.D., Associate Clinical Professor of Pediatrics, Harvard Medical School, and Cardiologist, Children's Hospital Medical Center, Boston.

Management of Occlusive Arterial Disease

What's New in Hypertension? • Thromboembolism

C.M.A. SPOTLIGHT ON MEDICINE 1962
Clinical Use of the New Penicillins

Pediatric Cardiology • Ovarian Tumors

TRAINING PHYSICIANS FOR CALIFORNIA'S MEDICAL NEEDS
Who Will Be the "Family Doctors" in 1970?

Scientific Meeting...

SPECIAL FEATURE: Tuesday Afternoon — 2 to 5 P.M., April 17

Basic Science Session

Chemistry—The Fat Problem—Critical Biochemical Appraisal

WENDELL H. GRIFFITH, PH.D., Professor and Chairman, Department of Physiological Chemistry, UCLA School of Medicine.

Anatomy—Brain Mechanisms for Innate Behavior

HORACE W. MAGOUN, PH.D., Professor of Anatomy, Member of Brain Research Institute, UCLA School of Medicine.

Biology—Tissue Culture in Modern Medicine

C. M. POMERAT, PH.D., Director, Division of Cellular Biology, Pasadena Foundation for Medical Research, and Clinical Professor of Pathology, Loma Linda University School of Medicine.

Pharmacology—The Effects of Some Steroids on Cardiac Function

JOHN L. WEBB, PH.D., Professor and Head of Department of Pharmacology, USC School of Medicine.

OTHER ATTRACTIONS

Preventive Medicine and Public Health

Present Status of Polio Immunization in the United States

C. A. SMITH, M.D., Assistant Surgeon General, U. S. Public Health Service, Atlanta, Georgia. To be discussed by EDWARD B. SHAW, M.D., Professor and Chairman of Department of Pediatrics, University of California School of Medicine, San Francisco.

Radiology—Medical Aspects of Nuclear Reactor Accidents

GEORGE L. VOETZ, M.D., Medical Services Officer, Atomic Energy Commission, Arco, Idaho.

Disaster Medical Care—Medical and Civil Defense

EDWARD TELLER, PH.D., Associate Director, Lawrence Radiation Laboratory; Professor of Physics-at-Large, University of California, Berkeley.

- Color Television from Presbyterian Medical Center.
- Medical Motion Picture Symposia.
- Hotel Reservations: See page 134.
- Pre-Convention Cancer Conferences on Pathology & Radiology, Saturday, April 14.
- House of Delegates Opening Session, Saturday evening, April 14.

PLAN NOW TO ATTEND

Sunday through Wednesday, April 15-18, 1962

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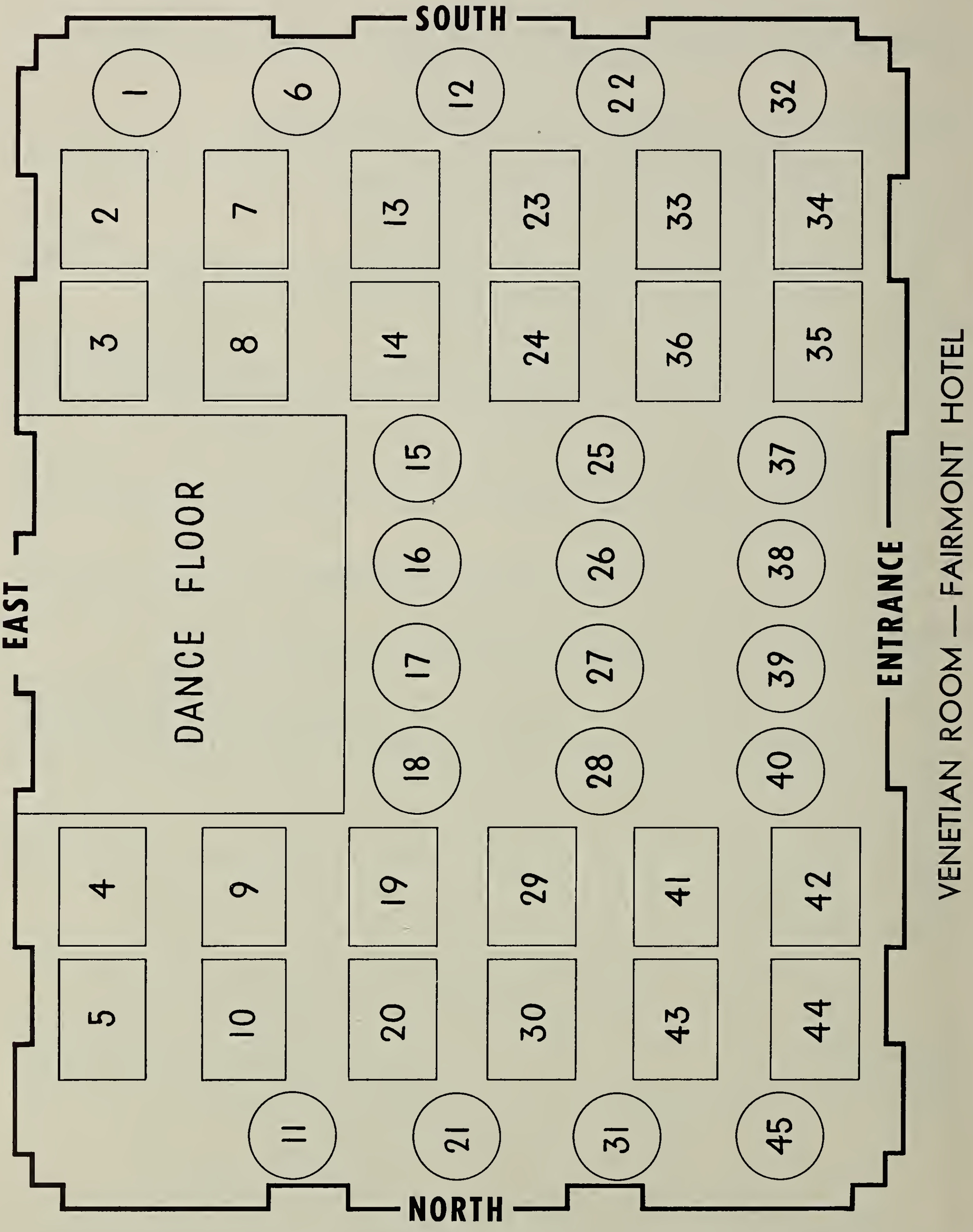
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DINNER-DANCE

Presidents' Annual Reception: Crystal and Fountain Rooms, 7 to 8 p.m.

Sunday, April 15, 8 p.m., Venetian Room, Fairmont Hotel

ENTERTAINMENT: **PEARL BAILEY**

Dancing to Ernie Heckscher

SQUAB CHICKEN DINNER

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* * *

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Your tickets will be held for you at the door to the Venetian Room. A receipt for your check will be sent to you. Please present this receipt at the door for your ticket, Sunday night, April 15.

or

Tickets may be picked up at any time Sunday morning or afternoon, April 15, at ticket booth, Woman's Auxiliary registration desk. Requests for tables for large parties should be sent in one envelope and early.

Mrs. Tom Fullenlove
110 El Verano Way, San Francisco 27, California

Enclosed is my check for $______. Please send me_____ticket(s) to the PRESIDENTS' DINNER-DANCE, Sunday, April 15, 1962.

Table Choice______ ______ ______or assign next best available________.
(Number) 1st 2nd 3rd

NAME______________________________

ADDRESS______________________________

____

MAKE CHECKS PAYABLE TO THE CALIFORNIA MEDICAL ASSOCIATION

12th ANNUAL

REGIONAL POSTGRADUATE INSTITUTE

WEST COAST COUNTIES

Presented by U.S.C. School of Medicine, Phil R. Manning, M.D., Associate Dean Postgraduate Division, and California Medical Association Committee on Postgraduate Activities.

Guest Speakers: *Professor Sheila Sherlock, M.D., Royal Free Hospital, London,* and *D. Geraint James, M.D., M.R.C.P., Royal Northern Hospital, London.*

Del Monte Lodge, Pebble Beach

March 8 and 9, 1962

PROGRAM

THURSDAY, MARCH 8

Morning Meetings

9:30-10:30—**The Growing Problem of Drug Jaundice**—Telfer B. Reynolds, M.D.

10:00-10:30—**A Diagnostic Approach to the Jaundiced Patient**—Sheila Sherlock, M.D.

ELECTIVES

PANEL A: **Symposium on Diseases of the Liver**

10:45-11:30—**Viral Hepatitis, Diagnosis and Management**—Allan G. Redeker, M.D.

11:30-12:30—**The Use of Liver Function Tests**—Sheila Sherlock, M.D., William P. Mikkelsen, M.D., Allan G. Redeker, M.D., Telfer B. Reynolds, M.D.

PANEL B: **Symposium on Hypertension**

10:45-11:30—**Hypertension, General Considerations**—Robert F. Maronde, M.D.

11:30-12:30—**Panel on Diagnostic Workup**—Robert F. Maronde, M.D., Yale J. Katz, M.D., Phil R. Manning, M.D.

Afternoon Meetings

2:00-2:45—**Surgery in the Jaundiced Patient**—William P. Mikkelsen, M.D.

ELECTIVES

PANEL A: **Symposium on Diseases of the Liver**

3:00-5:00—**Small Group Sessions** (going over actual case examples of patients with jaundice)—William P. Mikkelsen, M.D., Allan G. Redeker, M.D., Telfer B. Reynolds, M.D., Sheila Sherlock, M.D.

PANEL B: **Symposium on Hypertension**

3:00-3:45—**Humoral Factors in Hypertension**—Don H. Nelson, M.D.

3:45-4:25—**Chronic Renal Disease and Hypertension with Emphasis on Differential Diagnosis and Treatment**—Yale J. Katz, M.D.

PANEL C:

3:00-5:00—**The Medical Interview**—with patient demonstration—Allen J. Enelow, M.D.

FRIDAY, MARCH 9

Morning Meetings

9:15-9:45—**Liver Involvement in Systemic Diseases**—Thomas H. Brem, M.D.

9:45-10:15—**Hepatic Encephalopathy**—Sheila Sherlock, M.D.

ELECTIVES

PANEL A: **Symposium on Diseases of the Liver**

10:30-11:00—**Complications in Gallbladder Disease**—William P. Mikkelsen, M.D.

11:00-11:45—**Jaundice in Pregnancy**—Telfer B. Reynolds, M.D.

11:45-12:30—**Primary Biliary Cirrhosis**—Sheila Sherlock, M.D.

PANEL B: **Symposium on Hypertension**

10:30-11:00—**Unilateral Renal Vascular Disease**—Thomas H. Brem, M.D.

11:00-11:30—**Angiotension and Hypertension**—Yale J. Katz, M.D.

11:30-12:30—**The Pharmacology of Antihypertensive Agents**—Robert F. Maronde, M.D.

Afternoon Meetings

2:00-2:30—**The Liver in Pulmonary Disease**—D. Geraint James, M.D.

ELECTIVES

PANEL A: **Symposium on Diseases of the Liver**

2:45-3:20—**Management of Ascites**—Allan G. Redeker, M.D.

3:20-5:00—**Portal Hypertension: Evaluation and Therapy**—Sheila Sherlock, M.D., William P. Mikkelsen, M.D., Telfer B. Reynolds, M.D.

PANEL B: **Symposium on Hypertension**

2:45-3:30—**Drug Therapy of Hypertension**—Robert F. Maronde, M.D.

3:30-5:00—**Panel—Case Problems in Hypertension**—Don H. Nelson, M.D., Phil R. Manning, M.D., Robert F. Maronde, M.D., Yale J. Katz, M.D.

PANEL C:

3:00-5:00—**The Medical Interview**—with patient demonstration—Allen J. Enelow, M.D.

HOST: Monterey County Medical Society . . . **REGIONAL CHAIRMAN:** Joseph E. Turner, M.D., 1073 Cass Street, Monterey. **INSTITUTE FEE:** $15.00. For additional information contact Postgraduate Activities office, California Medical Association, 693 Sutter Street, San Francisco 2. **All California Medical Association members and their families are cordially invited to attend.**

12th ANNUAL

REGIONAL POSTGRADUATE INSTITUTE

NORTH COAST COUNTIES

Presented by Stanford University School of Medicine, Lowell A. Rantz, M.D., Associate Dean and Director, Postgraduate Programs, and California Medical Association Committee on Postgraduate Activities.

Hoberg's Resort — Lake County

March 29 and 30, 1962

PROGRAM

THURSDAY, MARCH 29

Morning Session

9:00-9:30—**New Horizons in the Radiotherapy of Malignant Disease**—Malcolm A. Bagshaw, M.D.

9:30-10:00—**The Theoretical Basis for Present Day Cancer Chemotherapy**—Saul A. Rosenberg, M.D.

10:00-10:30—**Modern Trends in Surgical Treatment of Cancer. Recent Advances in Perfusion and Infusion Technology**—Thomas S. Nelsen, M.D.

10:45-12:00—**Two Panel Discussions** (you may go to the one of your choice).

PANEL A: **The Interdisciplinary Approach to the Patient with Malignancy**—Malcolm A. Bagshaw, M.D., Moderator; Thomas S. Nelsen, M.D.; Saul A. Rosenberg, M.D.; Harold J. Simon, M.D., Ph.D.

PANEL B: **The Child Who Fails to Thrive**—Norman Kretchmer, M.D., Moderator; Sumner J. Yaffe, M.D.; Charles E. Peck, M.D., Santa Rosa; George P. Rostel, M.D., Santa Rosa.

Afternoon Session

2:00-2:45—**Specific Metabolic Disorders Associated with Mental Retardation**—Norman Kretchmer, M.D.

2:45-3:30—**Clinical Aspects of Mental Retardation**—David A. Hamburg, M.D.

3:45-5:00—**Two Panel Discussions** (you may go to one of your choice).

PANEL A: **Mental Retardation**—Norman Kretchmer, M.D., Moderator; David A. Hamburg, M.D.; Sumner J. Yaffe, M.D.

PANEL B: **Diagnosis and Treatment of Diseases of the Liver and Spleen**—Guest Speaker from U.C.L.A. School of Medicine, Sherman M. Mellinkoff, M.D., Moderator; Harry A. Oberhelman, M.D.; Saul A. Rosenberg, M.D.; Harold J. Simon, M.D.

FRIDAY, MARCH 30

Morning Session

9:00-9:45—**The New Penicillins**—Harold J. Simon, M.D., Ph.D.

9:45-10:30—**Pyelonephritis**—Lowell A. Rantz, M.D.

10:45-12:00—**Two Panel Discussions** (you may go to one of your choice).

PANEL A: **Management of Serious Infections**—Lowell A. Rantz, M.D., Moderator; Thomas S. Nelsen, M.D.; Saul A. Rosenberg, M.D.; Harold J. Simon, M.D.

PANEL B: **Medical and Surgical Treatment of Peptic Ulcer**—Harry A. Oberhelman, M.D., Moderator; Malcolm A. Bagshaw, M.D.; David A. Hamburg, M.D.; Sherman M. Mellinkoff, M.D.

Afternoon Session

2:00-2:45—**Malabsorption Syndromes**—Sherman M. Mellinkoff, M.D.

2:45-3:30—**Pancreatitis**—Harry A. Oberhelman, M.D.

3:45-5:00—**Two Panel Discussions** (you may go to one of your choice).

PANEL A: **Advances in Diagnosis of Gastrointestinal Disease**—Thomas S. Nelsen, M.D., Moderator; Malcolm A. Bagshaw, M.D.; Sherman M. Mellinkoff, M.D.; Harry A. Oberhelman, M.D.

PANEL B: **Medical Disease of the Kidney**—Lowell A. Rantz, M.D., Moderator; Sumner J. Yaffe, M.D.; John Wuest, M.D., Santa Rosa; George M. Firestone, M.D., Santa Rosa.

HOST: Sonoma County Medical Society . . . **REGIONAL CHAIRMAN:** Lucius L. Button, M.D., 1102 Montgomery Drive, Santa Rosa. **INSTITUTE FEE: $15.00.** For additional information contact Postgraduate Activities, California Medical Association, 693 Sutter Street, San Francisco 2. **ALL California Medical Association Members and their families are cordially invited to attend.**

APPLICATION FOR HOTEL ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association,** April 15-18, 1962, San Francisco, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, your chance of securing accommodations of your choice will be better if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

All Reservations must be made through the C.M.A. Housing Bureau

DEADLINE: MARCH 16, 1962

Ninety-first Annual Session

CALIFORNIA MEDICAL ASSOCIATION

San Francisco, California

APRIL 15*-18, 1962

HOTEL ROOM RATES†

	Single	Twin Beds	Suites
MARK HOPKINS* **(HEADQUARTERS)** California and Mason	18.00-22.00	22.00-26.00	35.00-110.00
FAIRMONT California and Mason	17.00-24.00	21.00-28.00	40.00- 96.00
FAIRMONT TOWER California and Mason	26.00-31.00	30.00-36.00	from 65.00
HUNTINGTON 1075 California	14.00-20.00	15.00-25.00	40.00- 50.00
SHERATON-PALACE Market at New Montgomery	9.85-15.00	13.85-19.00	25.00- 75.00
ST. FRANCIS Powell and Geary	12.00-24.00	15.00-27.00	30.00- 55.00
SIR FRANCIS DRAKE Sutter and Powell	12.00-17.00	14.00-22.00	34.00- 52.00
JACK TAR Van Ness and Geary	14.00-24.00	16.00-24.00	32.00- 54.00

***April 14: House of Delegates will start with evening meeting Saturday, April 14, at the Mark Hopkins Hotel; all Scientific Sessions and Exhibits will be at the Fairmont Hotel.**

†The above quoted rates are existing rates but are subject to any change which may be made in the future.

CALIFORNIA MEDICAL ASSOCIATION—Housing Bureau
693 Sutter Street
San Francisco 2, California

Please reserve the following accommodations for the 91st Annual Session of the California Medical Association, in San Francisco, April 15-18, 1962. (House of Delegates members: First meeting of House begins Saturday afternoon, April 14, Mark Hopkins Hotel.)

Single Room $.................................... Twin-Bedded Room $....................................

Small Suite $.................................... Large Suite $.................................... Other Type of Room $....................................

First Choice Hotel.................................... Second Choice Hotel....................................

ARRIVING AT HOTEL (date):....................................Hour:..............A.M..............P.M.

Leaving (date) ....Hour:..............A.M..............P.M.

Hotel reservations will be held until 6:00 p.m., unless otherwise notified.

THE NAME OF EACH HOTEL GUEST MUST BE LISTED. Therefore, please include the names of both persons for each twin-bedded room requested. Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

....

....

....

....

Individual Requesting Reservations—Please print or type: Officer?.............. Delegate?.............. Alternate?..............

Name.................................... County....................................

Address.................................... City and State....................................

In Memoriam

Abels, Daniel W., Sacramento. Died January 7, 1962, in Los Angeles, aged 41. Graduate of the University of California School of Medicine, San Francisco, 1944. Licensed in California in 1945. Doctor Abels was a member of the Sacramento Society for Medical Improvement.

◆

Ahl, Gustav Algot, Los Angeles. Died December 30, 1961, in Los Angeles, aged 63, of pulmonary embolism and carcinoma of the colon with metastasis. Graduate of the College of Medical Evangelists, Loma Linda-Los Angeles, 1938. Licensed in California in 1938. Doctor Ahl was a member of the Los Angeles County Medical Association.

◆

Allen, Alfred G., Sacramento. Died December 11, 1961, in Sacramento, aged 45. Graduate of the University of Cincinnati College of Medicine, Ohio. 1942. Licensed in California in 1946. Doctor Allen was a member of the Sacramento Society for Medical Improvement.

◆

Armstrong, Charles D., Menlo Park. Died January 11. 1962, in Palo Alto, aged 44, of pulmonary embolism. Graduate of Harvard Medical School, Boston, Massachusetts, 1941. Licensed in California in 1942. Doctor Armstrong was a member of the San Mateo County Medical Society.

◆

Blosmo, Oscar J., Los Angeles. Died December 8, 1961, in Los Angeles, aged 77, of congestive failure. Graduate of the University of Minnesota Medical School, Minneapolis, 1921. Licensed in California in 1922. Doctor Blosmo was a member of the Los Angeles County Medical Association.

◆

Commons, Robert Rayner, Los Angeles. Died December 8, 1961, in Los Angeles, aged 44, of cerebral hemorrhage. Graduate of Harvard Medical School, Boston, Massachusetts, 1943. Licensed in California in 1945. Doctor Commons was a member of the Los Angeles County Medical Association.

◆

Darby, John Sangster, Los Angeles. Died January 6, 1962, in San Gabriel, aged 56, of pulmonary emphysema. Graduate of Northwestern University Medical School, Chicago, Illinois, 1932. Licensed in California in 1934. Doctor Darby was a member of the Los Angeles County Medical Association.

◆

Fox, Charles Marvin, La Mesa. Died January 10, 1962, in La Mesa, aged 83. Graduate of Northwestern University Medical School, Chicago, Illinois, 1901. Licensed in California in 1916. Doctor Fox was a retired member of the San Diego County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

◆

Gassman, Fred (Frederick J.), Long Beach. Died December 18, 1961, in Long Beach, aged 72, of circulatory collapse. Graduate of Schlesische-Friedrich-Wilhelms-Universität Medizinische Fakultät, Breslau, Prussia, Germany, 1914. Licensed in California in 1928. Doctor Gassman was a member of the Los Angeles County Medical Association.

◆

Gibbons, Francis G., Long Beach. Died August 31, 1961, in Long Beach, aged 59, of carcinoma of the prostate. Graduate of the University of Minnesota Medical School. Minneapolis, 1926. Licensed in California in 1949. Doctor Gibbons was a member of the Los Angeles County Medical Association.

◆

Hinman, Frank, San Francisco. Died December 17, 1961, in Redwood City, aged 81, of coronary occlusion. Graduate of Johns Hopkins University School of Medicine, Baltimore, Maryland, 1906. Licensed in California in 1914. Doctor Hinman was a retired member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.

◆

Mottram, Lloyd Daniel, Modesto. Died January 10, 1962, in Modesto, aged 77. Graduate of Baltimore Medical College, Maryland, 1908. Licensed in California in 1919. Doctor Mottram was a retired member of the Stanislaus County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

◆

Olhoffer, Charles Joseph, Pasadena. Died December 26, 1961, in Pasadena, aged 64, of intra-cerebral hemorrhage. Graduate of the University of Michigan Medical School, Ann Arbor, 1921. Licensed in California in 1928. Doctor Olhoffer was a member of the Los Angeles County Medical Association.

◆

Palevsky, Samuel N., La Jolla. Died December 7, 1961, in La Jolla, aged 53. Graduate of Ohio State University College of Medicine, Columbus, 1931. Licensed in California in 1940. Doctor Palevsky was a member of the San Diego County Medical Society.

◆

Roome, Clarence T., Santa Barbara. Died December 22, 1961. in Santa Barbara, aged 82. Graduate of Columbia University College of Physicians and Surgeons, New York, N. Y., 1908. Licensed in California in 1925. Doctor Roome was a retired member of the Santa Barbara County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

◆

Ross, Moses Hodge, Los Angeles. Died January 12, 1962, in Hollywood, aged 82, of congestive heart failure. Graduate of Rush Medical College, Chicago, Illinois, 1901. Licensed in California in 1905. Doctor Ross was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

◆

Steckel, Morris Leo, Los Angeles. Died December 18, 1961, in Los Angeles, aged 55, of heart disease. Graduate of Tulane University School of Medicine, New Orleans, Louisiana, 1934. Licensed in California in 1936. Doctor Steckel was an associate member of the Los Angeles County Medical Association.

◆

Stephens, Walter C., La Verne. Died December 25, 1961, in Pomona, aged 82. Graduate of the Indiana University School of Medicine, Indianapolis. 1913. Licensed in California in 1928. Doctor Stephens was a member of the Los Angeles County Medical Association.

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, *M.D., M.P.H.*
Director, State Department of Public Health

INFLUENZA has returned to California this winter after a virtual absence of almost two years. Type B virus has been identified by culture and serologic tests in many areas of the state.

In addition, a considerable amount of respiratory disease has been affecting California since mid-autumn, giving the impression that a sizable influenza epidemic exists. However, most cases of respiratory disease studied have so far not been identified, and it would appear that true influenza accounts for only part of this wave of illness.

In relation to the nation, California leads in total confirmed influenza outbreaks, but was preceded by Florida and Arizona in identifying Type B. Colorado, Missouri and Illinois to the east, and Oregon and Washington to the north, have since experienced outbreaks of Type B disease. Type A influenza, including the Asian strain, has not been found this season.

The Department's Viral and Rickettsial Disease Laboratory has established serologic confirmation of Influenza B in the following 15 counties: Alameda, Amador, Humboldt, Lake, Los Angeles, Marin, Monterey, San Bernardino, San Diego, San Francisco, Santa Clara, Santa Cruz, Sonoma, Stanislaus and Yolo. The majority of these cases were in adolescent patients.

Several other counties have had outbreaks of respiratory tract disease. Type B virus has been isolated from two teen-age students in Modesto and from another in Lake County, as well as from an autopsy specimen of a lung submitted by a hospital in Oakland. Moreover, the Los Angeles City Health Department laboratory earlier isolated the virus from two 13-year-old boys in a San Fernando Valley outbreak.

The submitting of laboratory specimens for influenza diagnosis is largely a function of the interest of practicing physicians, the activities of the local health departments and the Influenza Surveillance Unit of this department. These specimens do not represent a true sampling of the statewide prevalence of a disease, since many areas do not contribute specimens, while a few send in a disproportionate number.

The isolation of influenza virus is difficult and expensive. However, serologic testing is relatively easy, requiring a blood specimen drawn during the first few days of the acute illness, then another 10 to 14 days later. Physicians who encounter outbreaks or cases of a special interest are encouraged to submit paired blood specimens for serologic diagnosis. The results from a single specimen are often inconclusive.

The department's Influenza Surveillance Unit maintains a program the purpose of which is to locate early respiratory disease outbreaks and to assess their impact on the communities involved. The backbone of this program is school absenteeism, which is reported from nine representative health jurisdictions.

Overall absenteeism is normally about five to seven per cent. Since late November, the reporting areas have had nine to ten per cent absenteeism. Individual counties have reported as high as 15 to 20 per cent absenteeism in certain weeks, and some schools have been hit even harder during the peak of disease activity. Urban areas in the southern part of the state were affected early in the season, followed in December by the rural counties. However, schools in the metropolitan areas of Los Angeles, San Francisco and Sacramento continued to have abnormal absenteeism rates just before the Christmas recess. Since the reconvening of schools in January, absenteeism has been about normal.

Industrial absenteeism has apparently not been affected by the wave of illness, which was confined largely to school-age children. The total number of deaths in the larger California cities has remained normal, as has the number from pneumonia and influenza, although a few deaths have been causally related to influenza.

In summary, a large wave of minor respiratory illness began in California in November. A significant proportion of this illness is true influenza, Type B, but much of it has not been identified etiologically. The impact of the disease on school populations has been considerable. However, the adult population has not been severely affected, and the death toll among the aged and the infirm, which was heavy during the Type A outbreaks of recent years, has not been great.

AMENDMENTS TO CONSTITUTION

Amendments to the Constitution of the California Medical Association are required to lie on the table for one year before being voted upon. Seven proposed amendments to the Constitution were introduced in the 1961 House of Delegates. Under the terms of the Constitution, these were subject to review by the Reference Committee in the 1961 House of Delegates and will also be reviewed by Reference Committee No. 4 in the 1962 House before being voted upon in that session.

In some instances the Reference Committee suggested that proposed amendments to the By-Laws, which need lie on the table only twenty-four hours, also be deferred until 1962 because of their association with constitutional amendments on the same subject. In the section on By-Law Amendments following this section, such deferral will be noted.

The following Amendments to the Constitution were offered in 1961, all of them placed on the table for definitive action in 1962.

⁂

CONSTITUTIONAL AMENDMENT No. 1

Author: Samuel R. Sherman.
Representing: The Council.

Resolved: That Article I, Section 5, of the Constitution of the California Medical Association shall be amended, by adding a new sentence at the end of the present section reading as follows:

"Notwithstanding the foregoing, one charter may be issued to a component society that is not limited as to geographical area or which overlaps the area covered by one or more existing component societies.";

and be it further

Resolved: That Article II, Part B, Section 10, be amended by deleting the word "ten" in the first sentence of the section and substituting therefor the word "eleven" and by adding at the foot of the section the following language: "District No. 11, comprising such areas as may be encompassed by a component society chartered in accordance with the terms of Article I, Section 5, of this Constitution, relating to the issuance of charters in excess of one in any county."

⁂

CONSTITUTIONAL AMENDMENT No. 2

Author: Samuel R. Sherman.
Representing: The Council.

Resolved: That Article III, Part B, Section 10, of the Constitution of the C.M.A. shall be amended by adding the following sentence as a separate subparagraph of said section:

"District No. 11, consisting of any society which is not limited as to geographical area, or the area of which overlaps the area covered by one or more existing component societies; such society and its members shall not be considered to be members of any other councilor district."

⁂

CONSTITUTIONAL AMENDMENT No. 3

Author: James MacLaggan.
Representing: San Diego County.

Resolved: That Article III, Section 2, of the Constitution, which now reads:

"As the By-Laws shall provide, each component society shall be entitled to proportionate representation in the House of Delegates but with a minimum of two delegates."

is hereby amended to read as follows:

"As the By-Laws shall provide, each component society shall be entitled to proportionate representation in the House of Delegates but with a minimum of one delegate."

⁂

CONSTITUTIONAL AMENDMENT No. 4

Author: Los Angeles delegation.

WHEREAS, the alternate delegates are duly elected representatives of the physicians in their districts; and

WHEREAS, the wishes of the physicians in a district will be best represented by a vote of all of their elected representatives; now, therefore, be it

Resolved: That the Constitution of the California Medical Association be amended as follows:*

ARTICLE III—Government of the Association
Part A—House of Delegates

Section 1—Composition. (b) *Alternate Delegates elected by members of component societies and seated in the place of absent delegates.* Present (b), (c) and (d) to be changed to (c), (d) and (e).

Section 2—Representation. As the By-Laws shall provide, each component society shall be entitled to proportionate representation in the House of Delegates but with a minimum of two delegates *or Alternate Delegates.*

Section 3—(Alternates) *Alternate Delegates.* (Alternates) *Alternate Delegates* shall be elected, as specified in the By-Laws, in the same manner as delegates are elected. One Alternate *Delegate* shall be seated in place of each delegate absent or disqualified for failure to attend meetings or other cause.

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*Language deleted shown in parentheses; new language shown in italics.

Section 4—Terms of Delegates and (Alternates) *Alternate Delegates.* Delegates and (alternates) *Alternate Delegates* shall serve for two or three years as each component society may determine. One-half or one-third, as the case may be, of the allowed number shall be elected each year.

Section 5—Quorum. A majority of the authorized number of delegates *or alternate delegates seated in their places* shall constitute a quorum.

Section 11—Election of Councilors. District councilors shall be elected by vote of the delegates *and Alternate Delegates* from each district in the manner and at the time specified in the by-laws; provided, however, that at the first meeting of the House of Delegates after a district councilor has been selected, his name shall be submitted to the House by the Chairman of the Delegation from the district, and (1) if there is no challenge by any delegate or *Alternate Delegate seated in place of a delegate* then the speaker shall declare his election completed, and (2) if any delegate or *Alternate Delegate seated in place of a delegate* shall challenge the election on any ground, including fitness of the nominee of the district to serve as a district councilor, the questions presented by the challenge shall be submitted to a Qualifications Committee consisting of the president, president-elect and one delegate, appointed by the speaker, from the councilor district involved. The Qualifications Committee shall consider all grounds upon which the nominee is challenged and report back to the House. If the committee reports in favor of confirming the nominee's election, the speaker shall declare him elected. If the committee reports against confirming the nominee's election, a three-fourths affirmative vote shall be necessary to sustain the report of the committee, in which event the nominee shall be ineligible to serve as the district councilor and the delegates *and Alternate Delegates* from the district shall immediately proceed to the selection of another nominee for the vacant office. If an adverse report of the Qualifications Committee is not sustained then the nominee shall be declared elected by the speaker.

* * *

CONSTITUTIONAL AMENDMENT No. 5

Author: Alameda-Contra Costa delegation.

WHEREAS, under the present Constitution of the California Medical Association, Associate Members are not eligible for leave of absence for either illness or postgraduate study; and

WHEREAS, the financial burden is as great on an Associate Member as on an Active Member under these circumstances; now, therefore, be it

Resolved: That Article IV, Section 3 of the C.M.A. Constitution be amended to read: "The Council, on recommendation of a component society, may grant leaves of absence to active *and associate members* who are seriously ill, etc. . . ."

* * *

CONSTITUTIONAL AMENDMENT No. 6

Author: Jerome Klingbeil.

Representing: Los Angeles County (Long Beach).

WHEREAS, a more even and democratic balance must prevail in the California Medical Association and that no county society should have the potential to exceed 50 per cent of the state association membership; and

WHEREAS, when a county medical society encompasses such territory and has a membership larger than a great majority of state medical associations, they cannot properly represent or govern their highly dispersed area groups with widely divergent economic, social, and public relations problems; and

WHEREAS, in such large unwieldy societies effective communication between the governing officers and the members represented is often inadequate and occasionally nonexistent; and

WHEREAS, the strength of organized medicine is most effective when broad participation of the medical profession at a local level is implemented; and

WHEREAS, in large county societies inequities tend to arise in outlying component districts in regard to insurance, legal matters, fees and available facilities; and

WHEREAS, in such large county societies, problems of the peripheral area groups regardless of acuteness or degree of local need often must be ignored or deferred to the routine mechanics of day-to-day business application; and

WHEREAS, precedence for district autonomy within a geographic county area has been established elsewhere; and

WHEREAS, there is no mechanism existing in the present Constitution and By-Laws of the C.M.A. to allow large district components of county societies to become direct component parts of the C.M.A.; now, therefore, be it

Resolved: That the California Medical Association initiate changes in its Constitution and By-Laws which will permit any established district of a county society to withdraw from that county society and become a direct component part of the California Medical Association; and be it further

Resolved: That the California Medical Association amend its Constitution and By-Laws as follows:

A. Article I, Section 4—Definition of Component Societies

Component societies include all county medical societies (which may cover one or more counties) or any established component district of at least 300 members of a county society which has exercised option to withdraw from that county society and set up a separate component society, heretofore or hereafter, chartered by this Association.

B. Article I, Section 5—Component Society Charters

Charters to component societies may be granted and revoked as hereinafter prescribed, subject to the limitation that only one charter may be outstanding at any one time in any county except where an established component district of at least 300 members of a county society has elected to be a separate component society.

C. Article III, Section 7(a)—Issuance and Revocation of Charters

The House of Delegates shall issue charters to medical societies of any county, any component society of at least 300 members which has exercised its option to become autonomous or to any group of counties deemed eligible which have made proper application therefor.

* * *

CONSTITUTIONAL AMENDMENT No. 7

Author: Ian Macdonald.
Representing: Los Angeles County.

Resolved: That Article III, Part A, Section 3 of the Constitution of the California Medical Association shall be amended to read as follows:

"Section 3—Alternate Delegates. Alternate delegates shall be elected as specified in the By-Laws in the same manner as delegates are elected; one alternate delegate shall be elected for each two delegates of a component society, and alternate delegates shall be seated in place of any delegate absent, or disqualified for failure to attend meetings, or other cause."

BY-LAW AMENDMENTS

Several proposed amendments to the By-Laws introduced in the 1961 House of Delegates were, on recommendation of the Reference Committee and vote of the House, deferred for consideration until 1962. These are shown here as introduced in 1961 and as identified, numerically, in the 1961 meeting.

The Reference Committee also suggested that a special committee be established, to review all such deferred amendments. This committee, which has been established by the Council, will review all amendments to the Constitution and the By-Laws which relate to the structure of the Association. Where a By-Law amendment has been referred to this special committee, this referral is noted at the foot of the amendment.

Shown below are all amendments to the By-Laws introduced in 1961 and deferred for action in 1962.

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BY-LAW AMENDMENT No. 1

Author: Samuel R. Sherman.
Representing: The Council.

Resolved: That Chapter II, Section 3(b) of the By-Laws of the California Medical Association shall be amended by inserting after the second sentence of said Section 3(b) a new sentence to read as follows:

"A physician and surgeon licensed by the State Board of Osteopathic Examiners on or before September 30, 1962, who holds a degree of Doctor of Medicine issued to him by the College of Osteopathic Physicians and Surgeons (or its successor), and whose license to practice medicine and surgery is unrevoked and unsuspended, is eligible for election to active membership in a component society. However, in the event that a charter is outstanding to a state-wide component society, none of such persons shall be permitted to join any component society other than the state-wide component society, without the express consent of such state-wide society."

ACTION: Deferred for action until 1962 in conjunction with Constitutional Amendments No. 1 and No. 2.

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BY-LAW AMENDMENT No. 6

Author: James MacLaggan.
Representing: San Diego County.

Resolved: That the membership of the House of Delegates of the California Medical Association be computed on the basis of one Delegate for each component society plus one Delegate for each 75 active members or major fraction thereof and that an automatic review of the size of the House of Delegates shall be made every six years by the Council of the California Medical Association and that to accomplish this, Chapter V, Section 2, of the By-Laws which now reads:

"Commencing with the 1952 regular session of the House of Delegates, each component society shall be entitled to one delegate for each fifty (50) active members or major fraction thereof, according to its membership as of the first day of September of the preceding year; providing, however, that each component society shall be entitled to a minimum of two delegates."

is hereby amended to read as follows:

"Commencing with the 1963 regular session of the House of Delegates, each component society shall be entitled to one delegate plus one additional delegate for each 75 active members or major fraction thereof, according to its membership as of the first day of September of the preceding year; and that every six years subsequent to 1963 the Council of the California Medical Association shall automatically review the size of the House of Delegates and make appropriate recommendations."

ACTION: Referred to special committee for study, together with Constitutional Amendment No. 3 and By-Law Amendment No. 15.

* * *

BY-LAW AMENDMENT No. 10

Author: Los Angeles delegation.

WHEREAS, all the delegates do not attend the caucus of the district delegation; and

WHEREAS, the alternate delegates are expected to be oriented and prepared to vote on all matters coming before the House of Delegates; and

WHEREAS, the interest of the alternate delegates will be greatly stimulated by being allowed to actively participate in the decisions of the district delegation; and

WHEREAS, such increased interest on the part of the alternate delegates will be advantageous to all physicians in California; now, therefore, be it

Resolved: That the By-Laws of the California Medical Association be amended as follows:*

CHAPTER V—House of Delegates

Section 1—Secretaries of Component Societies to Furnish Lists of Delegates and (Alternates) *Alternate Delegates.* Each component society shall elect the number of delegates and (alternates) *alternate delegates* to which the component society is entitled. At least sixty days prior to the next scheduled session the Secretary of each component society shall forward to the secretary of the Association, on forms provided by the Association, the names and addresses of these delegates and (alternates) *alternate delegates,* and shall certify thereon the terms of service of each individual.

Section 2—Representation. Commencing with the 1952 regular session of the House of Delegates, each component society shall be entitled to one delegate *or alternate delegate* for each fifty (50) active members or major fraction thereof, according to its membership as of the first day of September of the preceding year; provided, however, that each component society shall be entitled to a minimum of two delegates *or alternate delegates.*

Section 3—Limitations on Seating of Delegates *and Alternate Delegates.* Only duly elected delegates or (alternates) *alternate delegates* may be seated at any session of the House of Delegates, unless the secretary of the Association has been given due notice of substitution at least fifteen (15) days in advance of the session.

Section 4—Disqualification of Delegates or (Alternates) *Alternate Delegates* for Absence From a Session. Any delegate absent without good cause from two or more consecutive meetings of the House of Delegates, and who has failed to give fifteen days' notice to the secretary of the Association of his inability to be present, shall thereupon be disqualified as a delegate and, in addition, ineligible for reelection as a delegate or (alternate) *alternate delegate* for three years immediately succeeding the expiration of his term; except that the Committee on Credentials may excuse absence on presentation of good cause therefor.

Section 5—Notification of Delegates *and Alternate Delegates.* The secretary of each component society promptly shall notify in writing each delegate and alternate *delegate* immediately after his election to such office, and shall expressly direct each delegate's and (alternate's) *alternate delegate's* attendance to the provisions of Section 4 above.

Section 6—Qualifications of Delegates and (Alternates) *Alternate Delegates.* At least three (3) years' active membership in good standing in the component society immediately preceding election shall be required for election as delegate or alternate *delegate.*

Section 10—Duties of Credentials Committee. The secretary of the Association shall supply the Committee on Credentials with the necessary information concerning the membership of the House of Delegates.

The secretary shall give this committee a list of component societies, showing the total membership as of September 1 of the preceding year. This committee shall ask each delegate and alternate *delegate* to present his written credentials, but shall accept the official written list submitted by the secretary of any component society; provided that such written list be sent to the secretary of the Association at least fifteen days before the beginning of the annual session.

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*Language deleted shown in parentheses; new language shown in italics.

The committee shall make a written report to the House of Delegates of the delegates and (alternates) *alternate delegates* entitled to membership therein.

Section 12—Loyalty. The Committee on Credentials shall require each delegate and alternate *delegate* who desires to be seated as a member of the House of Delegates, to subscribe to the oath or affirmation in the form required for officers under Section 3 of Chapter XIII. In the event of refusal to subscribe to such oath, the Credentials Committee may at its discretion refuse to include such person in its written report to the House of Delegates designating the delegates and (alternates) *alternate delegates* entitled to membership therein. Any person refused a seat by action of the Credentials Committee shall have the right to appeal to the House and by majority vote the House may overrule the Credentials Committee and seat such person as a delegate.

Chapter VIII—Election of Officers: Terms

Section 6—Election of District Councilors in Districts Having One Councilor. At least twenty-four hours prior to the second meeting at each annual session of the House of Delegates the delegates *and alternate delegates* from those districts in which councilor vacancies are about to occur shall separately meet, and in each district the delegates *and alternate delegates* shall elect a chairman and a secretary. At such caucus the delegates *and alternate delegates* in each district shall by nomination, secret ballot and majority vote of the delegates *and alternate delegates* present elect a district councilor from such district to serve for the ensuing term. The chairman of the district delegation shall then report at the second meeting of the House of Delegates the results of the election, and when such report is made the member elected shall thereupon assume office as a district councilor. The time and place of the caucus of each district delegation shall, in the absence of unanimous written consent by the delegates *and alternate delegates* from the district fixing time and place, be fixed by the speaker and announced at the first meeting of the House of Delegates at each annual session. In the event that at any district caucus no person receives a majority vote for district councilor after repeated ballots, the chairman of the caucus shall report such fact at the second meeting of the House of Delegates and shall also report the names of all nominees submitted to the caucus, whereupon the House of Delegates shall proceed to elect from such nominees the district councilor from such district. *The alternate delegates shall have a vote on all actions taken by the caucus meeting of the district delegation.*

Section 6.5—Election of District Councilors in Districts Having More Than One Councilor. Immediately on the adoption of this section, and in succeeding years at least twenty-four hours prior to the second meeting at each annual session of the House of Delegates, the delegates *and alternate delegates* from those districts in which more than one councilor vacancy exists or is about to occur shall separately meet and in each such district the delegates *and alternate delegates* shall elect a chairman and a secretary. *The alternate delegates shall have a vote on all actions taken by the caucus or meeting of the district delegation.*

At the first such caucus in each such district, the aggregate number of vacancies existing shall be divided into Offices No. 1, No. 2 et seq. with Offices No. 1, 4 and succeeding increments of three carrying an initial term of one year and thereafter terms of three years; with Offices Nos. 2, 5 and succeeding increments of three carrying initial terms of two years and thereafter terms of three years; and with Offices Nos. 3, 6 and succeeding increments of three carrying initial terms of three years and thereafter terms of three years. Where new offices are created under the terms of Article III, Part B, Section 9(a) of the Constitution, each such new office shall be numbered serially with those already existing and shall carry an initial term extending to the same date as has previously been established for offices in the same numerical sequence, thereafter a term of three years.

Nominations shall then be received for each individually numbered office in which a vacancy exists, and in each instance where there is more than one nomination election shall be by secret ballot and majority vote of the delegates *and alternate delegates* present and voting. The chairman of the district delegation shall then report to the House of Delegates the results of the election, and when such report is made, the members elected shall thereupon assume office as district councilors, subject to the provisions of the Constitution and By-Laws.

At the second and succeeding caucuses the delegates *and alternate delegates* in each such district shall by nomination, secret ballot and majority vote of the delegates *and alternate delegates* present and voting, elect district councilors for each individually numbered district councilor office from such district for which a vacancy is about to occur, and the chairman of the district delegation shall report at the second meeting of the House of Delegates the results of the election, and when such report is made, the member or members elected shall assume office as a district councilor or district councilors, subject to the provisions of the Constitution and By-Laws.

The time and place of the caucus of each district delegation shall, in the absence of unanimous written consent of the delegates *and alternate delegates* of the district fixing time and place, be fixed by the speaker and announced at the first meeting of the House of Delegates at each Annual Session; except that on the adoption of this section the speaker shall immediately announce a time and place for the immediate caucus of each district that is at the time of said adoption, entitled to more than one district councilor.

In the event there are more than two nominees at any district caucus for any of the individually numbered offices of district councilor in said district and none of such nominees receives a majority of the votes cast on the first ballot, the nominee receiving the smallest number of votes on such ballot shall be eliminated and a second ballot shall be taken on the remaining nominees, such process to continue until one such nominee shall receive a majority of the votes cast.

ACTION: Referred to special committee for study.

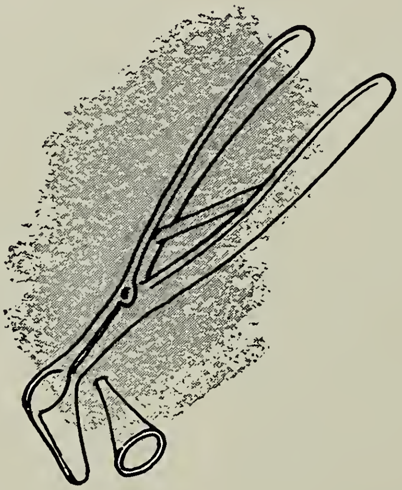
BY-LAW AMENDMENT No. 15

Author: Los Angeles delegation.

Resolved: That the membership of the House of Delegates of the California Medical Association be computed on the basis for each component society of one delegate for each one hundred active members, or major fraction thereof, according to its membership as of the first day of September of the preceding year; provided, however, that each component society shall be entitled to a minimum of one delegate, and that to accomplish this, Chapter V, Section 2 of the By-Laws, is hereby amended to read as follows:

"Commencing with the 1963 regular session of the House of Delegates, each component society shall be entitled to one delegate for each one hundred active members, or major fraction thereof, according to its membership as of the first day of September of the preceding year; provided, however, that each component society shall be entitled to a minimum of one delegate."

ACTION: Referred to special committee for study, together with Constitutional Amendment No. 3 and By-Law Amendment No. 6.



WOMAN'S AUXILIARY
TO THE CALIFORNIA MEDICAL ASSOCIATION

Progress for A.M.A.-E.R.F.

LAST YEAR the Woman's Auxiliary to the California Medical Association raised $16,659.20 for the American Medical Education Foundation, and it is satisfying to know that every dollar of this has gone directly into the 86 accredited medical schools in the United States. The deans of 80 of these schools have reported on the uses of these funds, and over half of them said that their schools used part or all of the funds for teaching salaries. Some of the money was used for specific chairs in departments and additional part-time and full-time teachers have been employed, allowing broader curricula and smaller classes as well as increased enrollment. Most of all, money from the A.M.E.F. has permitted deans to retain and attract the quality of teacher essential to medical education.

In many cases, equipment which has been urgently needed but not provided within regular budgets has been obtainable only through the A.M.E.F. gift. The dynamic strides of medical technology makes modern equipment essential for today's medical education.

Students at all levels of studies are receiving A.M.E.F. assistance through direct scholarships, loan funds, graduate assistant stipends and grants.

Some of the private colleges have placed the A.M.E.F. funds in their annual anticipated budgets, and others have placed them in a contingency fund. Foundation funds in many cases have been used at the discretion of the dean for visiting lecturers, faculty travel on professional business, and to alleviate emergencies not anticipated by a budget. These funds also aid research. Teachers and graduate students are constantly hampered in basic research by tightly legislated budgets, and the A.M.E.F. provides the only means in some schools for this desirable activity. Other schools have applied A.M.E.F. gifts to benefit their libraries through salaries to librarians and purchase of books, periodicals and visual equipment.

Some of the county auxiliaries in California have shown great zeal and resourcefulness in promoting A.M.E.F. Los Angeles County auxiliaries raised $5,330 last year. The three highest per capita contributors are as follows:

	Total Amount	*Members*	*Per Capita*
Tulare County Auxiliary	$ 566.50	69	$8.20
San Luis Obispo Auxiliary	564.50	72	7.85
Orange County Auxiliary	2,340.00	345	6.80

The county auxiliaries raise the money in various ways. San Bernardino County sponsored "Bowling for A.M.E.F." and raised $270 in 15 weeks, which seemed just incidental to having a wonderful time. Other auxiliaries sponsor plays, balls, card parties, rummage sales and auctions, while others sell greeting cards, brooms, cookbooks, fruit cakes and various handmade articles. The cards have been a very effective means of raising money: The "sympathy" card is used to honor the memory of a friend who has died, the "in-appreciation" card is used to express gratitude to a physician, and the "utility" card is used to mark special occasions. These cards are sent by the A.M.E.F. chairman of the county auxiliary upon receipt of a donation.

A method that is proving to be increasingly popular is the Christmas card. Each member of the county medical society is invited to make a contribution to A.M.E.F. and simultaneously send season's greetings to his colleagues. The county auxiliary furnishes the cards, and each donor's name is printed on the cards, which are then mailed to each member of the medical society. The physician is saved the trouble and expense of mailing personal greeting cards to his colleagues, and he has made a contribution to the medical school of his choice through A.M.E.F.

Although auxiliary support to A.M.E.F. has grown apace since we first started this program in 1951, it is not as yet adequate, for the need constantly increases. Dr. Vernon W. Lippard of the Yale University School of Medicine estimated that by 1975 all existing medical schools will have to be expanded and at least 25 more new ones built—simply to produce the 2,000 more physicians who will be needed annually by then for a growing population.

The costs of medical education are at a record high. Statistics show that 30 to 40 per cent of the teaching budget for an entire university's program must be channeled into its medical school. In a typical medical school today less than one out of every five budget dollars comes from tuition. The rest must be drawn out of endowments, gifts, or the U. S. Treasury. Every effort is being made to avoid resorting to federal financing lest government aid lead to the sort of uniformity of medical education that stifles research, coerces the high-level teaching concepts of individual schools and turns private medicine into an expensive federal bureaucracy.

One way to minimize the danger of governmental control is to obtain more funds from private industry. If American corporations last year had donated only one-fortieth of 1 per cent of their net profits before taxes, this sum would underwrite the present deficits of all medical schools in the nation. However, industry's role is dependent upon professional leadership. There is continued need for a physician's personal identification with a vast effort touching upon the graduate as well as the student. The medical fraternity knows that only by leading with its own support can it expect adequate support from nonmedical groups and individuals.

Effective January 1, 1962, the program of the American Medical Education Foundation will be consolidated with that of the American Medical Research Foundation under the new American Medical Association Education and Research Foundation, and will henceforth be known as A.M.A.-E.R.F. This foundation has been incorporated under the laws of the State of Illinois as an educational and scientific organization, and all contributions to this foundation are tax deductible. A board of directors will be elected annually from the membership of the board of trustees of the American Medical Association. The present board of directors and officers are: Hugh H. Hussey, Jr., M.D., president; Raymond M. McKeown, M.D., vice-president; James Z. Appel, M.D., secretary-treasurer; Leonard W. Larson, M.D., and Gerald D. Dorman, M.D.

At present the foundation is seeking funds to support the following:

- Unrestricted financial assistance to medical schools.
- A medical journalism fellowship program.
- A research grants program for medical research workers.
- A study of perinatal mortality and morbidity.
- A study of continuing medical education

During 1962, the foundation will also undertake to raise funds to assist in the financing of medical scholarships and for loans to medical students, as well as to physicians in internships and residencies.

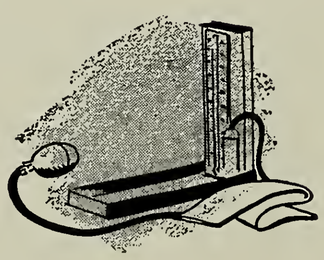
The A.M.A.-E.R.F. seeks financial support from physicians, medical societies, the Woman's Auxiliary, philanthropic organizations, business entities and the general public. Contributors are encouraged to designate which project they wish to support, and, in the case of financial assistance to medical schools, to designate the specific school that is to receive their contribution, as has been done heretofore under A.M.E.F.

Direct-mail solicitation of physicians and other persons, and publicity designed to help get contributions will be used to support the new foundation.

Mrs. James L. McCartney, national A.M.E.F. chairman of the Woman's Auxiliary to the American Medical Association, Inc., states that the Woman's Auxiliary will continue under the present A.M.E.F. label during the 1961-1962 A.M.E.F. year.

This merged foundation provides us with the added challenge of a broader field of service for medical education.

Mrs. George Bower
A.M.E.F. Chairman, California



NEWS & NOTES

NATIONAL · STATE · COUNTY

LOS ANGELES

Dr. Clayton G. Loosli, dean of the University of Southern California School of Medicine, has been reappointed to the Armed Forces Epidemiological Board of the Department of Defense for a four-year term. The board is concerned with the direction of research designed to protect the health of the United States forces in this country and abroad.

* * *

As a part of the plan for unification of the osteopathic with the medical profession in California, the former College of Osteopathic Physicians and Surgeons of Los Angeles has changed its name to **California College of Medicine** and has applied to the Council on Medical Education and Hospitals of the American Medical Association for approval as a recognized medical school.

Dr. Benjamin Wells, formerly dean of the University of Arkansas School of Medicine and now in federal work in Washington, has been approved as dean. He is scheduled to assume his duties at California College of Medicine at the end of June, 1962.

* * *

A symposium on Anxiety will be given February 24 and 25 at the Los Angeles County General Hospital under the joint auspices of the Department of Psychiatry of the University of Southern California and the Department of Mental Hygiene of the State of California. The intention is to give general practitioners **an intensive two-day academic and practical orientation** on the general subject. Further information and applications for enrollment may be obtained by addressing Secretary, Department of Psychiatry, University of Southern California, 1934 Hospital Place, Los Angeles 33.

SAN FRANCISCO

Dr. Harold C. Harper has been appointed dean of the graduate division of the San Francisco Medical Center of the University of California. He had served for several years as acting dean.

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At the first annual meeting of the newly created **West Coast Allergy Society,** held in San Francisco, December 2, the following officers were elected for 1962: President, Dr. Merle W. Moore, Portland, Oregon; vice-president, Dr. M. Coleman Harris, San Francisco; secretary-treasurer, Dr. Ben C. Eisenberg, Huntington Park.

* * *

The Third annual **Low-Beer Memorial Lecture** will be held at the University of California Medical Center, San Francisco on February 13, 1962. **Dr. Maurice Lenz,** professor emeritus of clinical radiology, Columbia University, New York City, will speak on "The Radiocurability of Epidermoid Carcinoma." The lecture will be held in the Auditorium, Medical Sciences Building, at 8 p.m. Members of the profession are invited to attend.

This lectureship, which was established in memory of the late Dr. Bertram V. A. Low-Beer, professor of radiology at the University, also includes a stay on the campus by the lecturer. Dr. Lenz will remain on the campus for the remainder of the week of February 13 for informal discussions.

SANTA CLARA

Joseph Donovan, executive secretary of the Santa Clara County Medical Society for the past 16 years, has announced as a candidate in the primary elections for Republican candidate for Congress from the newly created Ninth District. The new district embraces **southern Alameda County** from the northern city limits of Hayward and the **portion of Santa Clara County** lying east of El Camino Real, but excluding Gilroy.

Mr. Donovan will be given leave of absence, as necessary, from his duties with the medical society to conduct his campaign.

* * *

The creation of a new division of Experimental Pathology at the Palo Alto Medical Research Foundation has been announced by Dr. Marcus A. Krupp, director.

Dr. Glen B. Haydon, a physicist as well as a physician, who will be chief of the division, has received a $70,363 research grant from the National Heart Institute to support "an investigation of inflammatory reactions" at the foundation. The grant includes the cost of an electron microscope.

Dr. Haydon, who was assistant professor in the department of pathology at Stanford University School of Medicine before he joined the Foundation staff, will continue his affiliation with Stanford as assistant clinical professor.

SOLANO

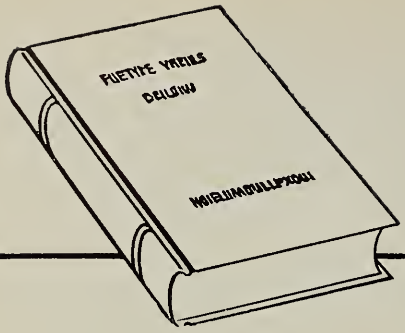
Dr. William J. Olson of Fairfield was installed as president of the Solano County Medical Society at the annual organizational meeting held in Vallejo early in January. He succeeded Dr. Carlton C. Purviance of Vallejo. Other officers installed at the same time were Dr. William S. Herbert, president-elect, and Dr. Albert Cohn, secretary-treasurer.

GENERAL

The fourteenth annual scientific assembly of the **American Academy of General Practice** will be held April 9 to 12 in Las Vegas, Nevada. The meeting will be the first national medical conclave to be held in the new Las Vegas Convention Center.

* * *

The National Geriatrics Society has announced an **essay contest** on the subject "Institutional Care of the Aged" for six prizes totalling $1,300. First prize will be $500, second $300, third $200, and then three of $100 each. Deadline for receipt of papers is March 15, 1962. Papers are to be judged anonymously. Identification numbers may be obtained from the office of the president of the Society, P. O. Box 2605, Niles, California. All papers are to remain the property of the National Geriatrics Society. Winners will be announced at the 9th annual convention of the Society to be held in Washington, D. C., April 30 through May 3.



THE PHYSICIAN'S *Bookshelf*

IMMUNITY—Second Edition—Sidney Raffel, Sc.D., M.D., Professor, Department of Medical Microbiology, Stanford University School of Medicine. Appleton-Century-Crofts, Inc., 35 West 32nd Street, New York 1, N. Y., 1961. 646 pages, $10.00.

The field of immunology covers a prodigious range: From the traditional considerations of resistance to infection to graft rejection and its complex genetic basis. In bringing his book up to date, seven years after the first edition, Dr. Raffel has, once again, very carefully scanned the field and consulted several thousand references. After carefully compiling divergent information in each major area, he thoughtfully proceeds to analyze agreements and discrepancies in order to formulate general principles. The reader who "sticks with him" through the descriptions of complex observations or experiments will be rewarded by a well-balanced insight.

The scope of the book is very large. Anyone puzzled by a question relating to hypersensitivity, immunity, antibodies and a host of other subjects will find some well-considered statement and some specific reference to help him arrive at an answer. This, perhaps, is the book's major merit, and it must be hoped that every hospital library will provide a copy to settle questions and arguments. In the four major sections—fundamental aspects of immunity, hypersensitivity, mechanisms of resistance in various infectious diseases, serology and antigenic systems—every physician will find something of special interest to him, some stimulating thought, some new point of view.

Ernest Jawetz, M.D.

* * *

MAN AND SEX—A Practical Manual of Sexual Knowledge—Joseph J. Kaufman, M.D., and Griffith Borgeson. Simon and Schuster, publishers, 630 Fifth Avenue, Rockefeller Center, New York 20, N. Y., 1961. 254 pages, $3.95.

This small volume is designed primarily for the instruction of the adult male reader disturbed about the problems of sexual activity. It will, however, appeal also to his feminine counterpart, who will find within its pages an explanation of many of the phenomena of sex that have so frequently disturbed and puzzled her.

It is a delightfully concise and sensible presentation, with nothing of the pornographic or sensual. The author decries too much elaborate discussion of sexual techniques as such, suggesting that "somewhere along the line we seem to have forgotten that sex is better when it is spontaneous than when it's self-conscious, more satisfying when it's improvised than when it's memorized." Probably this sentence appeals the more strongly to this reviewer because it states so succinctly his own conviction that the technique of sexual activity, though performed properly by the copy-book, will never be sufficient to adequately guarantee a completely satisfactory relationship between man and woman.

In addition to the chapters on the psychology and pleasures of sex, the author also discusses without fanfare the several sexual problems which so often obsess the male patient—impotence, infertility, masturbation, contraception, and others. In all of these he displays a rational conservative approach, carefully avoiding sensational pronouncements, and his attitude cannot fail to be a comfort to the unfortunate individual disturbed by one of these worries.

The chapter on "The Male as a Parent" is so excellent that it should be recommended to any father, for it contains many things that need very badly to be said.

The last section of the book includes chapters on venereal disease, on the various types of prostate disturbances, including an unusually fair comparison of the several types of prostatic surgery, and a final chapter on the many relatively minor and less common diseases of the male genitalia. Here, as elsewhere, the statements and terminology are made as simple as possible, but even so they may be, in the judgment of this reviewer, a little beyond the understanding of the average lay reader. This is almost a universal problem in trying to explain medical problems to the nonprofessional reader, and this attempt is rather better than usual.

The book is, without doubt, the most simple, sensible, and accurate presentation of this intricate and fascinating subject we have seen. It is a fine effort to break down old-fashioned sexual fetishes and place the whole matter on a rational basis. The doctor will find it an excellent basis for discussions with worried patients, and for the layman, while it may not make the whole matter crystal clear, it may be safely recommended, for it will not produce any false ideas or unfortunate prejudices.

Lyle G. Craig, M.D.

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MEDICAL PHYSIOLOGY—Eleventh Edition—Edited by Philip Bard, Professor of Physiology, The Johns Hopkins University. The C. V. Mosby Company, St. Louis, Mo., 1961, 1339 pages, $16.50.

The eleventh edition of Bard's textbook represents a tremendous improvement over the tenth edition, which finally reached the profession in 1956. An interval of more than ten years had elapsed since its previous edition. Many of the sections, written for an expected publication date of 1944 to 1945, were hopelessly out of date and had to be made ready for publication by the editor rather than the original author. In many cases the attempted modernization of these sections by the editor-in-chief was far from successful.

In marked contrast, the present volume is a sparkling example of up-to-date treatment of nearly all of the sections. The organization of the book is well suited to its purpose—"to present that part of physiology which is of special concern to the medical student, the practitioner of medicine and the medical scientist . . ." The sections by new contributors in the fields of electrophysiology, respiration, the heart, endocrinology, muscular contraction and muscular exercise are particularly well done, with emphasis on examples of physiological integration and a tactful simplification of mathematical analyses. Material on the modern physiology of respiration, kidney function and endocrinology is as nearly up to date as these active fields permit. It is clearly presented in a form that should meet the needs of medical students and physicians.

ESSAYS ON THE FIRST HUNDRED YEARS OF ANAESTHESIA—Volume II—W. Stanley Sykes, M.B.E., M.B., B.Chir. (Cantab.), D.A., Late Anaesthetist to the General Infirmary at Leeds, to the Hospital for Women and St. James' Hospital, Leeds, to the Leeds Dental Hospital, to the Halifax Royal Infirmary and to the Dewsbury General Hospital. The Williams & Wilkins Co., Baltimore 2, Maryland, exclusive U. S. agents, 1961. 187 pages, $7.00.

The first volume of Sykes' "Essays on the First Hundred Years of Anaesthesia" whetted one's appetite for more and the second volume which is now out does not disappoint. The seventeen essays are unrelated except in very general terms and deal with various phases of the subject—historical, pharmacological, technical, biographic and historical.

Chapter I, "Thirty-seven little things which have all caused death," deals in interesting fashion with the accidents and hazards of anesthesia during its developmental stages and gives a fair sample of what is to come. Dr. Sykes is a natural writer—witty, precise and forceful. The book, aside from being impeccably documented, makes excellent reading. It is illustrated with numerous interesting plates depicting the various phases of the discussions.

Arthur L. Bloomfield, M.D.

* * *

A COURSE IN EPIDEMIOLOGY—I. I. Elkin. Contributors: A. Ya. Alymov, I. I. Elkin, S. V. Guslits, A. I. Nemirovskaya, I. R. Stepanov, V. M. Zhdanov. Translated from the Russian by C. R. Pringle, Ph.D. Pergamon Press Inc., 122 East 55th Street, New York 22, N. Y., 1961. 518 pages, $12.00.

This text is said to provide the teaching content in epidemiology provided by the Sanitary and Hygiene Faculties of the Medical Institutes of the U.S.S.R. It stresses the epidemiology of communicable diseases and presents viewpoints which have many similarities and many divergencies with epidemiological concepts of this country. There is no indication that the principles of epidemiology in the U.S.S.R. extend to the noncommunicable diseases as is true in the U.S.A., Canada and Great Britain.

Stress is laid on the procedures of isolation of clinical cases and disinfection. In our Western epidemiology, the principle of interreactions of etiological agent, host and environment are emphasized and greater emphasis is laid on inapparent infections and the breadth of the "infection spectrum" or biological gradient. Thus, in the discussion of epidemic meningococcus meningitis this text, while indicating importance of carriers, recommends their detection by bacteriological means, which we have largely abandoned as impractical. There is no mention of mass prophylaxis by means of the sulfas which we have found essential for military and closed population groups.

In control of poliomyelitis the text states that hospitalization of polio patients in isolation wards or rooms is essential, with disinfection of feces, laundry and remains of food. Moreover, the patients must remain hospitalized for at least forty days. Salk vaccine is urged, but there is no mention of live vaccine, probably reflecting the time it takes for a text to be written and translated (original text "Kuz Epidemiologii" was published in 1958).

While the discussions of influenza and vaccination (including consideration of "Asian influenza") are in line with our Western views, the use of living influenza vaccine rather than of our killed vaccine understandably is stressed. On the other hand, there is no direct mention of hemolytic streptococcal disease and, indeed, scarlet fever is thought to be due to the association of a specific virus with *Str. haemolyticus*. Emphasis again is on isolation since "the causative agent of scarlet fever is still unknown." Thus, penicillin is not even mentioned.

The discussions of the zoonotic diseases are especially interesting and will give many valuable views, especially those related to recognizing and dealing with "epidemic foci." These "epidemic foci" also are emphasized in the "anthroponotic" (man-to-man) infections. Here, however, the problems of "inapparent" infections are not stressed as greatly as we do. The forms used in investigating outbreaks of diseases are detailed and are of notable interest.

Thus the "scientific" concepts and especially their relationships to the patterns of medical and public health patterns of the U.S.S.R. are fascinating. An interesting feature is the frequency with which possible application to bacteriological warfare is indicated. In very many places in the text the authors incorporate blatant Soviet propaganda. This is a behavioral trait we have not seen in the Russian scientists who have visited the U.S.A., nor has it been mentioned by our counterpart scientists who have visited Russia. Certainly, our papers and texts of epidemiology emphasize the importance of social-environmental influences, but we are not accustomed to see them as part of a "party line." However, here are a few of the large number of relevant quotations:

Page 55: "Engels in his book, 'The Position of the Working Class in England,' gives detailed proof that capitalistic crises are responsible for huge epidemics of typhus fever, scarlet fever and other diseases."

Page 56: "The ruin and impoverishment of most of the population in capitalistic countries, and the continued pillage of colonial and dependent territories, wars (which are unavoidable under the capitalistic system) and unemployment will likewise favor the occurrence of epidemics in the future. In capitalistic countries scientific discoveries in the field of prophylaxis and control of infectious diseases are used only in the interest of the ruling class, and the achievements of science are not available to most of the population."

Page 77: "Bourgeois epidemiology has proved incapable of understanding the essential relation of epidemics to the class structure of society."

Page 76: ". . . the Soviet system itself is the best guarantee of successful solution of the problems which arise in the prophylaxis of infectious diseases. The fundamental economic law of socialism is maximum satisfaction of ever-increasing material and cultural requirements of society by continual expansion and improvement of socialist production."

It is with great difficulty that this reviewer ceases his quotations. He will conclude merely by observing that in the section on staphylococcal food poisoning, no mention is made of refrigeration of appropriate food stuffs. Perhaps this is realistic in view of the absence of "capitalistic refrigerators" among the population of socialist Soviet countries.

Charles E. Smith, M.D.

* * *

HANDBOOK ON CLINICAL ELECTROMYOGRAPHY—Robert B. Pearson, M.D., Associate Professor of Physiology, Loma Linda University School of Medicine. The Meditron Company (a Division of Crescent Engineering & Research Company), 5440 North Peck Road, El Monte, California, 1961. Paperbound book—72 pages. No price quoted.

One increasingly reads of electrical measurements reflecting nerve and muscle function, not only in clinical medicine and dentistry, but in other biological fields, notably experimental psychology.

There have been few sources giving the nonspecialist a brief but comprehensive view of electromyography. This little book, which can be read completely in a short time, describes equipment and guiding principles for its use in analysis of clinical nerve and muscle problems. It is a useful introduction and serves well in preparation for more detailed studies.

Sanford E. Feldman, M.D.

THE YEAR BOOK OF OBSTETRICS AND GYNECOLOGY (1961-1962 YEAR BOOK SERIES)—Edited by J. P. Greenhill, B.S., M.D., F.A.C.S., F.I.C.S. (Honorary), F.A.C.O.G., Professor of Gynecology, Cook County Graduate School of Medicine; Attending Gynecologist, Cook County Hospital; Senior Attending Obstetrician and Gynecologist, Michael Reese Hospital; Associate Staff, Chicago Lying-in Hospital; Author of Office Gynecology, Surgical Gynecology, Obstetrics in General Practice, Obstetrics (12th ed.) and Analgesia and Anesthesia in Obstetrics. Year Book Medical Publishers, Incorporated, 200 East Illinois Street, Chicago 11, 1961. 584 pages, $8.00.

The object of this Year Book, as stated in its introduction, is to make available a detailed abstract of the cream of the recent international literature in obstetrics and gynecology. The presence of at least two abstracting journals in the English language with similar goals raises the question of how such a volume has maintained its popularity over the years.

The Year Book has been able to create a niche for itself because it presents the abstracts in an organized, succinct manner which leaves the reader with the impression that he has been exposed to all of the important current points of view. The frequent editorial comments, with their isolated bits of information, give the text an additional completeness. Among the many sources which are abstracted, the reviews of the various world-wide symposiums are particularly useful.

While the recent developments in human karyology (chromosome study) are briefly mentioned, their importance to the fields of obstetrics and gynecology is not emphasized. Practitioners of this specialty must be conversant with modern human genetics in order to provide accurate family counseling and to be able properly to manage the problems of the intersex individual.

The 1961-1962 Series of the Year Book can be recommended to both the general practitioner and the specialist, for it has indeed succeeded in abstracting the best of the international literature.

R. C. Goodlin, M.D.

* * *

PROGRESS IN MEDICAL GENETICS—Volume I—Edited by Arthur G. Steinberg, Ph.D., Professor of Biology, Department of Biology, and Associate Professor of Human Genetics, Department of Preventive Medicine, Western Reserve University, Cleveland, Ohio. Grune & Stratton, Inc., 381 Park Ave. South, New York 16, N.Y., 1961. 341 pages, $9.75.

Interest in genetics has been greatly stimulated through studies on the inborn errors of metabolism, concern for the genetic effects of radiation, the demonstration of sex chromatin, the development of techniques of tissue culture and rapid advances in immunogenetics. The editor of this volume has selected eight topics for presentation which are representative of the many broad aspects of genetics as they apply to man. The first three chapters deal with the interaction of the genetic material with the environment. Crow gives a clear and concise discussion of the problems of mutation based on studies that have been carried out on experimental organisms, human beings, somatic cells and tissue cultures. Haldane reviews natural selection and discusses its meaning and consequences in terms of current genetic concepts. One of the best reviews is by Frasier on genetics and congenital malformations. The literature is reviewed on the genetic control of embryogenesis and its relevance to human malformations. The difficulties of genetic counseling are pointed out in the section on "sporadic" malformations. The physician will obtain much information from this chapter which may assist him in discussing the problems of congenital malformation with parents.

The role of the blood groups in health and disease is dealt with by Clark in his discussion of the association between blood groups and disease, e.g., duodenal ulceration, blood group O and nonsecretion. The meaning of these associations has been explored with little success. Levene and Rosenfield present the genetic and epidemiological implications of ABO incompatibility. Emphasis is on the role that blood groups play in health and disease and the selective forces that maintain their frequency.

The use of consanguinity studies as a genetic method is presented by Morton. Fortunately the algebraic formulations are adequately explained in the text. Although the material in this chapter will be of little use to the physician concerned with an individual patient, nevertheless the technique will be important in increasing our knowledge of mutations and selection.

In the last chapter, Ferguson-Smith discusses "Chromosomes and Human Disease." This is an excellent review of the literature with some fine illustrations of chromosome preparations. The physician will obtain a good background of information from this chapter. Although progress in this field is extremely rapid, the author presents the fundamental information about these abnormalities in terms of numerical and structural aberrations in the chromosomes. Consideration is also given to the mechanisms by which these abnormalities occur.

This is an excellent volume for those interested in the areas of genetics which are often bypassed in this day of "inborn errors" and biochemical genetics. It will not be an easy book for the physician or student, for whom it is intended, unless he already has some background in genetics on which to build. Nevertheless, he will be well rewarded by reading many of the chapters and will obtain a greater appreciation of genetic methodology and the role played by genetic material in human biology. The editor has made a fine contribution to the field and it is hoped that succeeding volumes will maintain the high standards set by this first issue.

Stanley W. Wright, M.D.

* * *

PATHOLOGY—Fourth Edition—Edited by W. A. D. Anderson, M.A., M.D., F.A.C.P., F.C.A.P., Professor of Pathology and Chairman of the Department of Pathology, University of Miami School of Medicine; and Director of the Pathology Laboratories, Jackson Memorial Hospital, Miami, Florida. The C. V. Mosby Company, St. Louis, Mo., 1961. 1389 pages, with 1385 illustrations and 7 color plates, $18.00.

For sixteen years this has been a well-known textbook of pathology, featuring the product of a large number of authors who have particular knowledge of the special fields that they represent. The compendium is the most complete of the single-volume general reference books in pathology. It can serve as a reference book for the graduate as well as for the undergraduate student. Particular attention has been given to the needs of the former through inclusion of as much detail as can be appropriately incorporated into a single volume. An attempt has been made to emphasize newly recognized conditions in keeping the fourth edition up to date. There have been revisions in many sections, and several portions, such as that on hypersensitivity diseases, are completely new. Illustrations are numerous and of good quality. Instead of the use of large and small type for different paragraphs, which characterized previous editions, the new edition uses type of intermediate size for all parts. This type is a little smaller than that used in most textbooks but the lines are relatively widely separated and it is easily legible. More material can be included than would have been permitted by the employment of larger type. References are abundant; nearly all are in English, although a few outstanding articles in foreign literature are included.

Alvin J. Cox, M.D.

REFERENCES AND REVIEWS

CHANGES IN VENTILATION FOLLOWING COMPLICATED PULMONARY RESECTIONS—D. V. Pecora. Dis. Chest—Vol. 40:491 (Nov.) 1961.

A study of the functional changes which accompany various post-thoracotomy states has been accomplished by the authors. They found that vital capacity is one of the most sensitive measurements of postoperative changes. Changes in post-thoracotomy emphysemas, hemothoraces, atalectases, pneumothoraces, and "spreads," unless extensive, do not produce severe functional changes.

* * *

SINGLE TROPHOBLASTIC CELLS IN VAGINAL SMEARS—Z. M. Naib. Cancer—Vol. 14:1183 (Nov.-Dec.) 1961.

Malignant-looking trophoblastic cells were found in the vaginal smears of 32 out of 30,677 patients investigated. The differentiation of these cells from those exfoliated from in situ and undifferentiated carcinomas of the cervix is illustrated by a table and several pictures. It is important to recognize the true nature of these cells in order to prevent unnecessary surgical interventions on young pregnant women.

* * *

EFFECTS OF AGE AND HABITUS UPON THE MEAN ELECTRICAL AXIS OF ELECTROCARDIOGRAM IN NORMAL MALES—A. J. Luskin and G. H. Whipple. Ann. Intern. Med.—Vol. 55: 610 (Oct.) 1961.

The mean electrical axis of the QRS was obtained from 1,025 males between the ages of 20 and 79 who were free of demonstrable cardiopulmonary disease. By means of IBM digital computers, a nomogram plotting age against the quotient of height by the third power of the weight as predictors of the mean electrical axis was construed to permit more precise clinical evaluation of the range of normal. The correlation between electrical axis and blood pressure was not of sufficient magnitude to include this factor in the nomogram. Our data indicate a far greater range of normal axis than previously reported. However, for any individual whose age, height, and weight are known, the limits of axis are actually much narrower than the previously accepted "normal" range.

* * *

PERIPHERAL NERVOUS SYSTEM OF HUMAN LARYNX—W. F. Konig and H. von Leden. Arch. Otolaryng.—Vol. 74:494 (Nov.) 1961.

The development of the peripheral nervous system of the human larynx was studied on embryos, newborn infants, and small children. Both the sensory innervation of the mucous membrane and the nervous structures of the vocalis muscle presented marked differences from the fully developed adult larynx. A clear differentiation of the various nervous elements is not feasible until the third year of life.

* * *

INTRAVENOUS REPLACEMENT OF HUMAN SPLENIC TISSUE—M. F. A. Woodruff and B. Nolan. Lancet—Vol. 2:689 (Sept. 23) 1961.

Three cases are reported in which the spleen has been removed prior to the administration of cytotoxic drugs for advanced cancer and replaced afterwards in the form of an intravenous infusion of splenic tissue. The procedure appears to promote hemopoietic recovery, and the suggestion is made that it might also contribute to the destruction of the tumor.

(Continued on Page 60)

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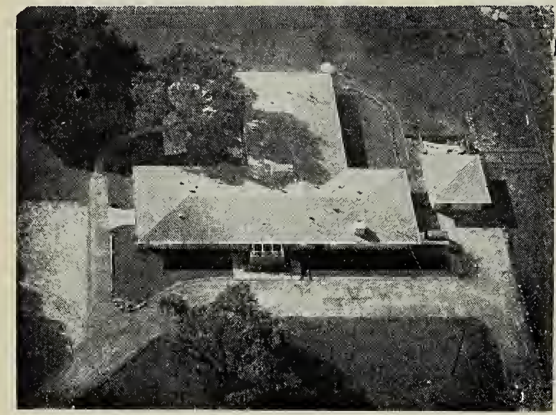

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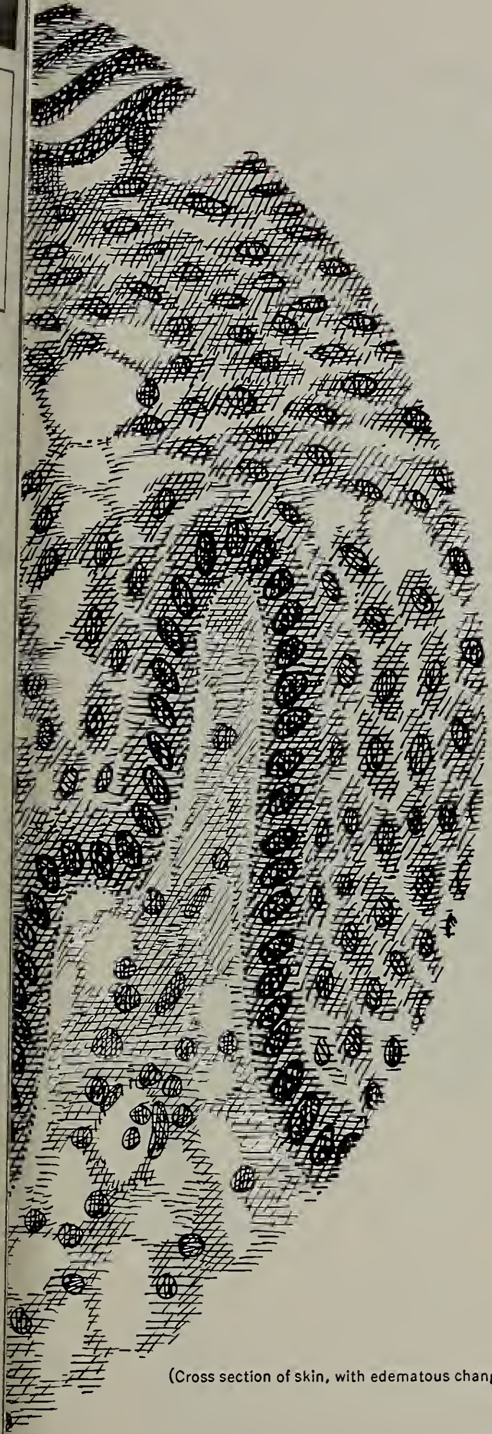

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REFERENCES AND REVIEWS

(Continued from Page 55)

Melkersson-Rosenthal Syndrome—S. Wallk and S. M. Bluetaib. Arch. Derm.—Vol. 84:798 (Nov.) 1961.

The Melkersson-Rosenthal triad consists of: (1) intermittent facial edema, (2) recurrent facial paralysis, and (3) lingua plicata. This report describes two cases which were studied closely. The variations and incomplete forms of the syndrome are noted. Pathological changes noted in this syndrome are discussed and evaluated. The etiology is still undetermined, but autonomic nervous system involvement is suggested.

* * *

Histologic Grading of Experimental Healing Wound—A. H. Myers, R. W. Postlethwait, and A. G. Smith. Arch. Surg.—Vol. 83:771 (Nov.) 1961.

In the hope of developing a method of grading whereby the stage of healing could be expressed numerically, three series of experimental wounds were examined histologically. It was found that the method differentiated major differences in the stage of healing, but very minor differences were not demonstrable.

* * *

Zinc in Liver Disease—H. J. Van Peenan and F. V. Lucas. Arch. Path.—Vol. 72:700 (Dec.) 1961.

Liver specimens from 43 cases of hepatic disease were analyzed for zinc. Zinc was low in all fatal cases of alcoholic, postnecrotic, biliary, and schistosomal cirrhosis and in infectious hepatitis. It was depressed to a lesser extent in milder cases of the same diseases. It was also depressed in some cases of passive congestion. There is a correlation between severity of hepatic disease and liver zinc but not between etiology of the disease and liver zinc.

* * *

A Design for Inhalation Therapy—G. L. Baum, J. J. Trautz, and C. W. Silverblatt. Dis. Chest—Vol. 40:522 (Nov.) 1961.

A system for using compressed air and oxygen in the chronic pulmonary disease section of a hospital is described. The advantages in terms of improved patient care, safety, convenience, and economy are summarized.

* * *

Peripheral Lung Cancer Arising in Scars—H. Yokoo and E. E. Suckow. Cancer—Vol. 14:1205 (Nov.-Dec.) 1961.

Seven cases of small peripheral lung cancers arising in scars are reported and the literature on lung scar-cancers is reviewed. Five bronchiolar carcinomas were observed among these seven cases and also a high incidence was noted in the literature. The importance of studying small lung cancers for clarifying the histogenesis of lung cancer in general is emphasized.

* * *

A New Mucolytic Agent by Aerosol for Inhalation in Chronic Bronchitis—K. N. V. Palmer. Lancet—Vol. 2:802 (Oct. 1) 1961.

A solution containing ascorbic acid, sodium percarbonate, and copper sulfate (Ascoxal) was found to have a powerful mucolytic action when given by aerosol inhalation to chronic bronchitis. In all expectoration was easier after the inhalation, and rhonchi were less; no side-effects were observed. A rapid mucolytic effect was also demonstrated in vitro: the concentration of the Ascoxal solution was shown to be important in this effect, and one tablet of Ascoxal in 2 ml. of water gave the greatest reduction in sputum viscosity.

(Continued on Page 62)

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REFERENCES AND REVIEWS

(Continued from Page 60)

Calcification of the Ear Cartilage Associated with Hypercalcemia of Sarcoidosis—J. M. Batson. New Engl. J. Med.—Vol. 265:876 (Nov. 2) 1961.

Calicification of the ear cartilages in a patient with hypercalcemia secondary to sarcoidosis is reported. This unusual site of calcification has not been previously reported in hypercalcemic states. The patient had hypercalcemia and renal impairment nine years before corticosteroids were given, without deterioration of his renal function over that period.

* * *

Irradiation Effect on Wound Contraction: Origin of Fibroblasts—H. C. Grillo and M. S. Potsaid. Ann. Surg.—Vol. 154:741 (Nov.) 1961.

X-irradiation delays the beginning and slows the rate of wound contraction. Radiation 36 hours after wounding causes maximum depression of fibroblast and capillary proliferation and the disorganization of repair. This supports a cell-migration theory of contraction. The local origin of fibroblasts is suggested by the inhibition of cell proliferation by local x-irradiation just before and immediately after injury.

* * *

Tuberculin Sensitivity and Tuberculosis in Nursing and Medical Students—J. R. Karns. Dis. Chest—Vol. 49:291 (Sept.) 1961.

Tuberculin testing increases in importance as the number of infected individuals decreases. Nursing and medical students still run a greater risk of tuberculous infection than other student populations, and continued vigilance still is necessary.

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“nutrition…present as a modifying or complicating factor in nearly every illness or disease state”[1]

1. Youmans, J. B.: Am. J. Med. 25:659 (Nov.) 1958

cardiac diseases “Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease.”[2] 2. Kampmeier, R. H.: Am. J. Med. 25:662 (Nov.) 1958.

arthritis “It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . .”[3]
3. Fernandez-Herlihy, L: Lahey Clinic Bull. 11:12 (July-Sept.) 1958.

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition. National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

degenerative diseases “Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult.”[6] 6. Overholser, W., and Fong, T.C.C. in Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] “Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes.”[9]
8. Duncan G. G.: Diseases of Metabolism 4th edition W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

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Black Eye Can Be Serious Injury

Although a black eye usually connotes "a droll state of affairs," it can be a serious injury, according to an article in the January 6 *Journal of the American Medical Association.*

The visible signs of a black eye may mask the underlying injury, Dr. Leonard G. Doubleday, Houston, Tex., said. A blow of sufficient intensity can fracture the floor of the bony socket which contains the eye, he said. Unless the fracture is detected, he said, the eye will retract into the orbital cavity and double vision will occur.

The possibility of this type of fracture should be suspected in all cases of black eye, Dr. Doubleday said, and adequate x-ray examinations of the orbital floor should be made.

"It is apparent that the black eye in many instances is not an innocuous injury," he said.

No Evidence Food Additives Endanger Public Health

The Council on Foods and Nutrition of the American Medical Association said recently there is "no reason to believe" the present use of chemicals in foods endangers public health.

"Responsible manufacturers have made careful safety tests before the introduction of new chemicals, and the Food and Drug Administration is diligently and effectively protecting the consumer from the presence of hazardous chemicals under existing federal laws," the Council said in a statement in the November 18 *Journal of the American Medical Association.*

At the same time, the Council criticized several provisions of the existing laws.

The 1958 Food Additives Amendment to the Food, Drug and Cosmetic Act permits continued use of additives used in food prior to 1958 "without toxicity tests" if qualified experts generally recognize them as having been shown safe, the Council said. However, it said, the Council believes that "decisions to continue the use of additives should be based on demonstrations of their safety through scientific methods."

The Council also urged either repeal or revision of certain clauses in the Food Additives Amendments and the 1960 Color Additive Amendments. Both clauses prohibit the setting of tolerances for the use of cancer-causing agents in foods.

These clauses could prohibit the addition of certain essential nutrients to foods if "any amount" of the substance was shown to cause cancer, the Council said. Technically, these clauses contribute nothing to the safe use of food additives since any hazardous use of an additive is already prohibited in the general provisions of the food additive amendment, it said.

(Continued on Page 72)

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AVERAGE DOSAGE: One capsule three times daily.

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Each teaspoonful (5 cc) contains:

PTZ (Pentamethylene Tetrazole)	100 mg.
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1-Glutamic Acid	50 mg.
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CAUTION: Most persons experience a flushing and tingling sensation after taking a higher potency niacin-containing compound. As a secondary reaction some will complain of nausea and other sensations of discomfort. This reaction is transient and is rarely a cause for discontinuance of the drug if the patient is forewarned to expect the reaction.

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Trancoprin is exceptionally safe to use: Fewer than two and a half per cent of patients can be expected to have any side effects, and these are of a minor nature.

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Before prescribing be sure to consult Winthrop's literature for additional information about dosage, possible side effects and contraindications. 1602M

Warning Signs Not Rare In Stroke Victims

Warning signs are "far from rare" in persons who suffer strokes, according to an article in the November *Archives of Neurology*, published by the American Medical Association.

Of 120 patients whose medical records were studied, 19 gave a history of premonitory symptoms, Dr. Charles E. Wells, Nashville, Tenn., reported.

It is probable that the incidence of warning signs would have been even higher had examining physicians made a special search for them, he said.

Headache was the most common warning symptom, appearing to be related to the subsequent stroke in 10 patients, Dr. Wells said. In five of these patients, the headache was localized to the side of the head in which blockage of a cerebral blood vessel later occurred, he said, and in the other five the headache was generalized.

Six other patients experienced various neurologic dysfunctions such as numbness, weakness, slurred speech and disorientation, he said. The other three patients described neurological symptoms in the days or weeks preceding the appearance of the stroke, he said, but it was difficult to assess their significance.

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Study Urged of Possible Morphine Substitute

Two Baltimore physicians have urged further study of a new drug, methotrimeprazine, as a possible nonaddicting substitute for morphine.

Writing in a December 2 *Journal of the American Medical Association*, Drs. Louis Lasagna and Thomas J. DeKornfeld, Johns Hopkins University School of Medicine, said the compound deserves careful scrutiny in the search for a potent pain-reliever "devoid of certain undesirable effects of morphine, in particular the tendency to cause addiction."

"Its apparent analgesic potency, coupled with the absence of physical dependence capacity in animals, make the compound one of compelling interest," they said.

The drug, one of a class that depresses the central nervous system, has been employed in the treatment of psychiatric disorders in Europe and Canada, the authors said.

In 1960 two investigators reported they were unable to demonstrate a physical-dependence capacity for the drug in monkeys, the Johns Hopkins researchers pointed out.

In a study to determine its ability to relieve postoperative pain, Drs. Lasagna and DeKornfeld administered the drug by injection to 66 surgical patients at Baltimore City Hospitals.

They concluded that methotrimeprazine "appeared to be as effective as morphine, milligram for milligram, in the relief of bed-patients suffering from postoperative pain."

No disturbing side effects were traced to the drug, they said.

Oral administration of the drug to a group of obstetrical patients did not relieve their pain, the authors reported.

Only by accumulating more experience with different patient populations and experimental approaches can the usefulness of methotrimeprazine as a pain reliever in various conditions be defined, they said.

"Questions of tolerance, physical dependence, side effects, and toxicity require investigation," they said.

For many years the medical profession has sought

(Continued on Page 76)

APPLICATION FOR HOTEL ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association,** April 15-18, 1962, San Francisco, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, your chance of securing accommodations of your choice will be better if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

All Reservations must be made through the C.M.A. Housing Bureau

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CALIFORNIA MEDICAL ASSOCIATION
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***April 14: House of Delegates will start with evening meeting Saturday, April 14, at the Mark Hopkins Hotel; all Scientific Sessions and Exhibits will be at the Fairmont Hotel.**

†The above quoted rates are existing rates but are subject to any change which may be made in the future.

CALIFORNIA MEDICAL ASSOCIATION—Housing Bureau
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Please reserve the following accommodations for the 91st Annual Session of the California Medical Association, in San Francisco, April 15-18, 1962. (House of Delegates members: First meeting of House begins Saturday afternoon, April 14, Mark Hopkins Hotel.)

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THE NAME OF EACH HOTEL GUEST MUST BE LISTED. Therefore, please include the names of both persons for each twin-bedded room requested. Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

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Hepatitis Associated with Coxsackie B5 Virus

Coxsackie B5 virus has been incriminated in a case of hepatitis, inflammation of the liver, according to a report in the January 6 *Journal of the American Medical Association.*

"Hepatitis due to this agent has never been described previously in an adult," Drs. William J. O'Shaughnessey and Howard A. Buechner, New Orleans, said.

Since this virus was isolated in 1952, it has been shown to produce several syndromes, including mild paralysis, the authors said. Although it is capable of causing liver damage in "experimental animals and possibly in human infants on rare occasions," it has never been reported to produce obvious signs of liver disease in adults before, they said.

The virus was found in a 21-year-old expectant mother who developed an illness marked by fever in which hepatitis was associated with inflammation of the eyelids and nervous system, the two physicians reported. The heart and kidneys also were affected, they said.

The recovery of the Coxsackie B5 virus "made it seem entirely reasonable to incriminate this agent as being responsible for the entire clinical picture," they said.

The woman was critically ill for a week, they said, but both mother and child survived.

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No Evidence Food Additives Endanger Public Health

(Continued from Page 66)

The Council also pointed out that federal agencies do not have jurisdiction over foods that are produced and sold within a state, terming this "the biggest loophole in our food regulations."

The Council urged formulation of state laws covering food additives incorporating the "practical and useful" sections of federal regulations.

"At present, not only the laws but also the laboratories and inspection services in most states are inadequate to conduct a food control program comparable to that of federal agencies," the Council said. "Sufficient state funds should be appropriated to support research and testing on present food additives. These funds should be provided at the same time that any new regulations are enacted. Enforcement of regulations including laboratory testing procedures and court actions, when necessary, must have adequate financial support if state food additives programs are to function properly."

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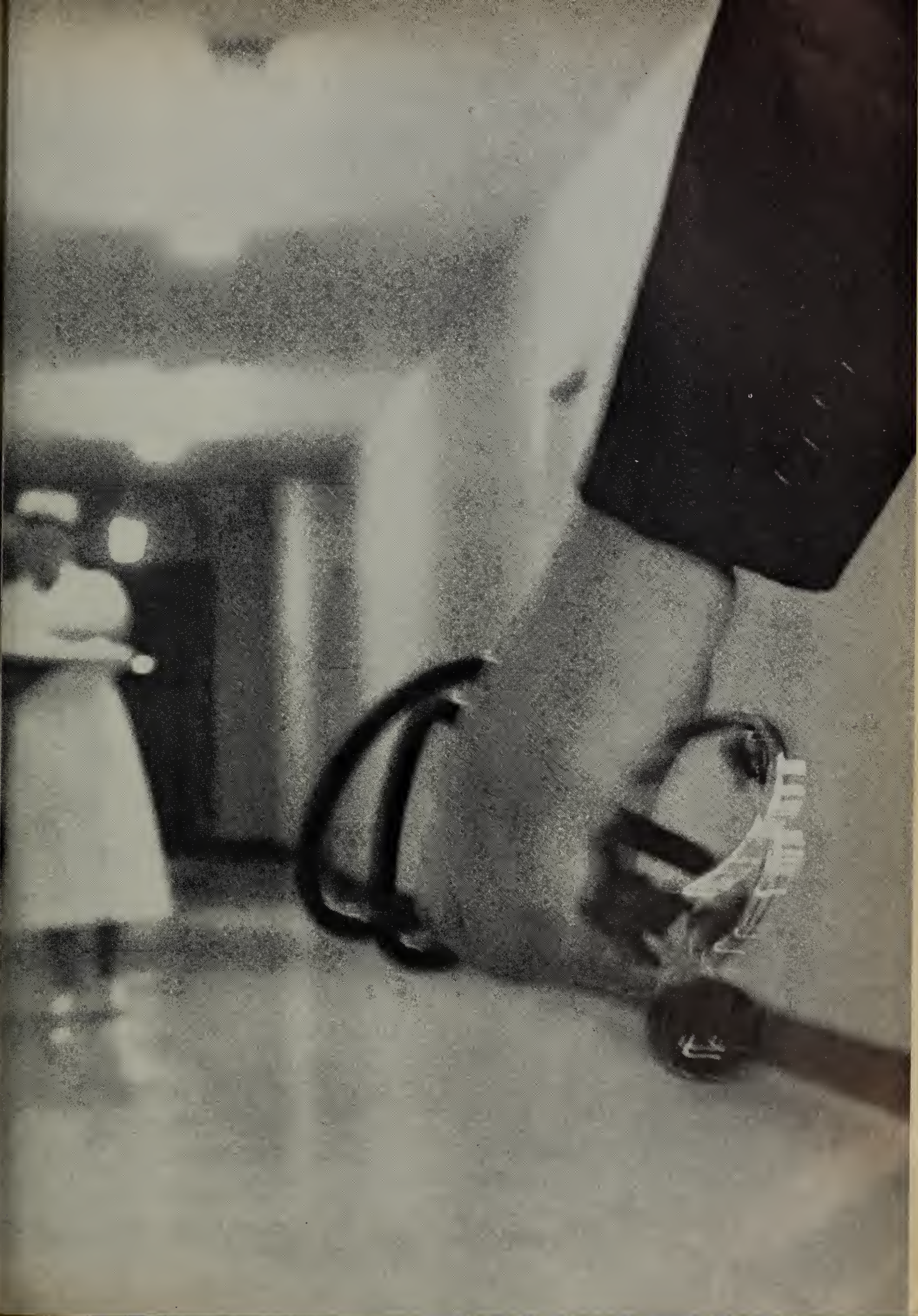

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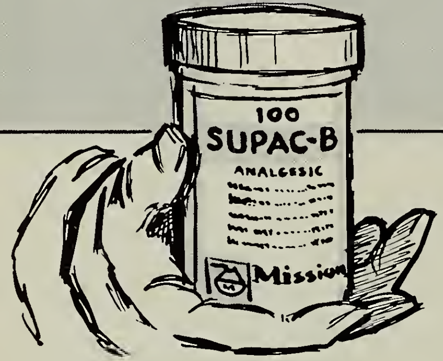

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SUPPLIED: Bottles of 36 and 100.

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Aspirin	230 mg
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DOSAGE:

Adults: one or two tablets. May be repeated in 3 or 4 hours. Do not exceed 4 tablets at a single dose or 16 tablets in a 24 hour period.
Children: 6 to 12 years of age, 1/2 the adult dose. 3 to 6 years of age, 1/5 the adult dose.

WARNING:

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Flashlight Used to Find Brain Defects in Babies

An ordinary flashlight is being used routinely to find brain defects in infants examined at Massachusetts General Hospital, Boston, according to Drs. Philip R. Dodge and Philip Porter.

The flashlight which illuminates the cranial cavity has aided the diagnosis of a variety of cerebral abnormalities, the two physicians wrote in the December *Archives of Neurology*, published by the American Medical Association. They urged wider application of the method, termed transillumination and employed as early as 1831 by Richard Bright with sunlight and candle.

In the newborn or very young infant, the authors said, transillumination may be the only definite way to find whether anything is amiss. In addition, they said, the technique can be useful in following the course of a brain condition.

The authors said they used a two-battery flashlight with the glass lens removed and a soft rubber cup attached for contact with the baby's head. The examinations were done in a dark room, they said, and color photographs of the illuminated brain were taken with flashbulbs.

The technique was generally successful in all infants up to one year old although the color and thickness of hair and complexion of skin influenced the results, they said.

This simple technique "has a much wider application to neurologic diagnosis than is generally realized," they said, but it "must be employed routinely before its usefulness can be fully appreciated."

Study Urged of Possible Morphine Substitute

(Continued from Page 68)

a nonaddicting substitute for morphine, the two physicians commented. A number of agents introduced for this purpose have proved to be potent pain relievers but only at the price of morphine-like side effects, they said. The only potent analgesic devoid of the capacity for producing physical dependence, nalorphine, has "unfortunately proved impractical . . . because of its bizarre mental effects," they said.

Recommended Procedures for Practical Evaluation of Impaired Lung Function in Individuals with Occupational Chest Diseases—Report of the Committee on Occupational Diseases of the Chest and Committee on Pulmonary Physiology, American College of Chest Physicians. Dis. Chest—Vol. 40:344 (Sept.) 1961.

The committees on Occupational Diseases of the Chest and on Pulmonary Physiology of the American College of Chest Physicians prepared this report, which outlines and recommends basic studies in both clinical evaluation and pulmonary function testing.

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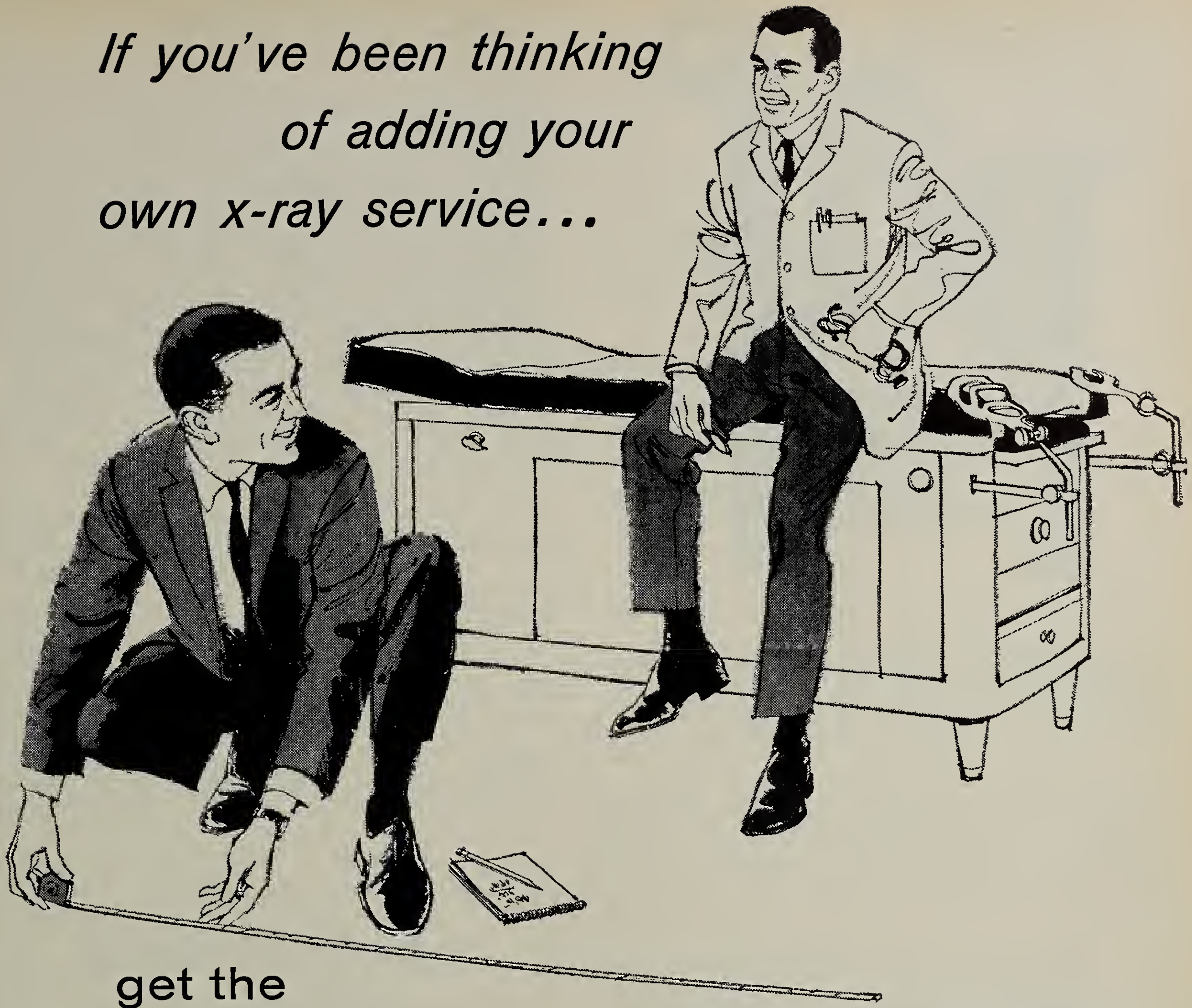

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George N. Papanicolaou Speak at A.M.A. Convention

)r. George N. Papanicolaou, world-renowned ner of exfoliative cytology and discoverer of the ap smear test" for detecting cancerous and pre- cerous cells, will appear on the American dical Association's Annual Meeting program in icago, June 24-28.

Dr. Papanicolaou retired recently as director of Papanicolaou Research Laboratory at Cornell iversity Medical College in New York, where he ved on the faculty as professor of anatomy for 48 years. He will deliver his lecture on Thursday, June 28, in McCormick Place, where the five-day scientific program will be held, said Dr. George R. Meneely, director of the A.M.A's. Department of Scientific Assembly.

The 79-year-old scientist, who is affectionately known as "Dr. Pap" to thousands of physicians and their patients, will appear on the program at the invitation of the Section on Preventive Medicine. Dr. Lemuel C. McGee, Wilmington, Del., Section Secretary, said, "we are delighted and honored to have this great man share his knowledge about cancer detection with members of the medical profession."

Through the years, Dr. Papanicolaou has written more than 100 scientific articles and two mono-

(Continued on Page 17)

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Cooperation Urged Between M.D.'s and Veterinarians

Close collaboration between physicians and veterinarians was urged in an editorial in the January 13 *Journal of the American Medical Association.*

"This is the day for the fullest possible collaboration of research in medical and veterinary schools of medicine," the editorial said.

Studies undertaken in a small group of animals may save the lives of a million men and a surgical technique developed primarily for man may be applicable to the treatment of animals, it said.

"As a result, human and veterinary medicine are being drawn closer and closer together in the basic sciences to gain maximum health for man, pets, and farm animals," the *Journal* said.

Dr. George N. Papanicolaou To Speak at A.M.A. Convention

(Continued from Page 14)

graphs published in the *American Journal of Anatomy.*

He and his wife, Mary, who arrived in America from Greece in the fall of 1913 with little more funds than the $250 required by law for permission to land, are presently living in Miami, Fla., where he is directing the newly organized $250,000 Cancer Institute of Miami.

As a direct result of his research, Dr. Papanicolaou has saved the lives of thousands of women, who otherwise would have died of cancer. By 1960, at least six million women had had the Pap test, and, according to the American Cancer Society, deaths from cancer of the uterus have been cut in half in the United States.

One-half day of the A.M.A. convention program —Thursday morning—will deal with diagnostic problems in exfoliative cytology—a subject which Dr. Papanicolaou made famous through his discovery and continued research. Eight physicians, including Dr. Papanicolaou, will discuss problems and experiences in cytologic methods as applied to various anatomic areas.

"Since this program will attract physicians interested in preventive medicine, gastroenterology and proctology, obstetrics and gynecology, pathology and physiology and general surgery, it should be one of the best attended of the meeting," Dr. Meneely said.

At least 15,000 physicians will attend the Chicago meeting. A doctor's primary purpose in attending the A.M.A. session is to study nearly 400 scientific exhibits and to hear more than 2,400 physicians deliver lectures.

"In that way," said Dr. Meneely, "the busy physician can keep abreast of what's new in medicine and carry back to his patients the latest forms of treatment in the battle against disease."

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Raddin, J.: Med. Times, July 1961

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Hootnick, H. J.: J. Am. Ger. Soc., 4:1021-1030, 1956

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Marshall, W.: S. D. J. Med. & Pharm., 8:151-153, 1955

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The substitution of Fleischmann's Unsalted (Sweet) Corn Oil Margarine for butter or ordinary margarines in your hypertensive patients' dietary regimen has the added advantage of increasing their intake of high polyunsaturates . . . and this is most important because of the association of polyunsaturates with hypertension and atherosclerosis.

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REFERENCES AND REVIEWS

THE ABSTINENT ALCOHOLIC—D. L. Gerard, G. Saenger, and R. Wile. Arch. Gen. Psychiat.—Vol. 6:83 (Jan.) 1962.

A follow-up study of 300 patients with a drinking problem was conducted. Only 17 per cent of them sustained abstinence as long as one year. These abstinent patients are in "better" health, have better employment and family relations than those who did not become abstinent. However, the majority of these abstinent patients are psychiatrically overtly disturbed or functioning with gross inhibitions and limitations in their personal relationships. A minority has a sense of identity, comfort and purpose through total involvement with Alcoholics Anonymous, and another small group has achieved a measure of identity, comfort and purpose without any institutionalized source of support. It was noted that prolonged abstinence may be associated with gross mental disturbance and maladjustment. It was also noted that both social improvement and abstinence were practically never related to either the acquisition of insight or personal growth within a formal psychotherapeutic context.

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* * *

CONTROL OF A STAPHYLOCCAL EPIDEMIC UNDER ADVERSE CONDITIONS—V. H. Bowers and J. R. Rose. Brit. Med. J.—Vol. 2:1044 (Oct. 21) 1961.

The authors report on an epidemic of cutaneous staphylococcic infections due to *Staphylococcus pyogenes* (phage types 80 and 3B/3C+) occurring in a unit housing 30 mentally subnormal boys, 6 to 15 years of age. The epidemic was brought rapidly under control without any form of segregation, isolation, or barrier-nursing. Of the different measures employed for control, the intranasal application of Naseptin, a cream containing chlorhexidine hydrochloride and neomycin sulfate in an inert base, and sponging with 1,6-di-4′-chlorophenyldiguanidohexane (Hibitane) solution 1 in 5000, were playing an important part in holding the position at that time. No case of sensitization nor any other adverse effect from the use of these substances was observed.

* * *

EYE COLOR IN ATOPIC DERMATITIS—R. G. Carney. Arch. Derm.—Vol. 85:17 (Jan.) 1962.

Eye color was recorded in 184 persons with atopic dermatitis, and in a total of 1,484 persons, either well or with other diseases. Sixty-two to 64 per cent of the atopics had brown eyes as compared to 40 to 42 per cent in the control group. A possible explanation for this preponderance of brown eyes in atopic dermatitis is discussed.

(Continued on Page 32)

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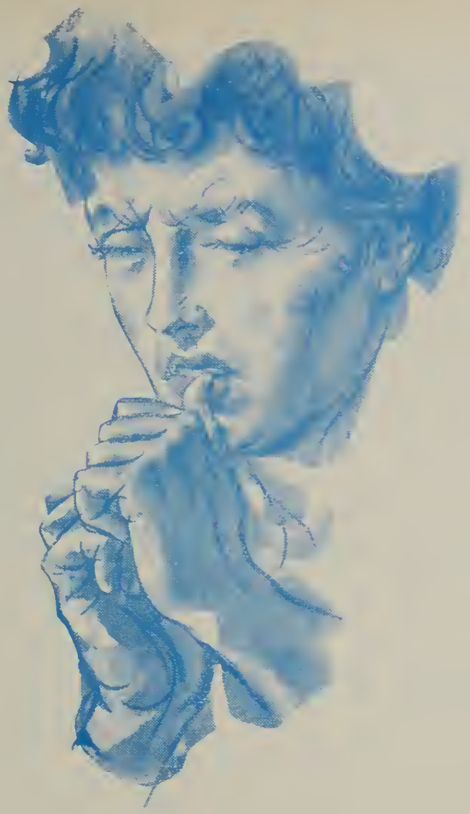

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Airborne Infection Blamed In Recent TB Epidemics

Airborne transmission of the tuberculosis germ is believed to be responsible for a number of recently reported TB epidemics in confined groups, an editorial in the January 27 *Journal of the American Medical Association* said.

"The once universally accepted belief that tuberculous infection results from intimate contact with an open [active] case of tuberculosis is rapidly giving way to the concept that it is primarily an airborne infection," the editorial said.

The spread of TB germs in respiratory droplets expelled by coughing may not cause an infection because the droplets are too large to be easily retained in the lungs, the editorial said. Since these droplets settle rapidly and exist only in the immediate vicinity of the source, it said, they have not been considered a form of airborne infection.

On the other hand, the nuclei of such droplets which form a residue as the droplets dry "may be freely wafted about" and tend to be small enough to be retained in the lungs, it said.

"The significance of this aspect of airborne infection in tuberculosis lies in the fact that only a single tubercle bacillus is necessary to produce infection, and that bacilli, being so tenacious of life, can survive several months in areas not exposed to the ultraviolet radiation of sunlight," it said. "Individuals may therefore be infected, not only concurrently, but long after an open case has left the environment."

This type of airborne transmission was suspected of playing a major role in an outbreak that occurred among the 236 men aboard a U. S. Navy picket destroyer in 1959. The epidemic was reported by Lt. Charles W. Ochs, MC, USN, in an accompanying *Journal* article.

Within an 18-month period, 30 of 62 men acquiring TB were hospitalized, he said.

The spread of the disease to the first four cases could be explained by direct contact infection, Dr. Ochs said. However, the fourth patient was removed

(Continued on Page 36)

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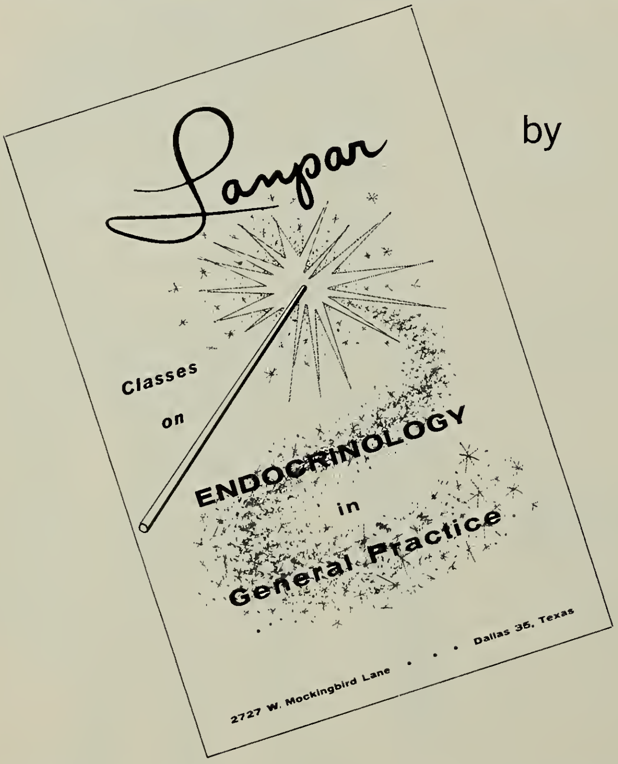

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REFERENCES AND REVIEWS

(Continued from Page 24)

ABDOMINAL EXPLORATION AT THE TIME OF PELVIC SURGERY—D. E. Woodard and R. E. Dean. GP—Vol. 24:83 (Oct.) 1961.

The authors performed abdominal exploration before pelvic surgical intervention in 127 patients who underwent elective and emergency gynecologic and obstetric pelvic operations, including cesarean sections and operations for cancer. Extrapelvic abnormalities were found in 38 (30 per cent) of the 127 patients. The abdominal exploration did not complicate the postoperative course of the patients. The abdomen should be explored as thoroughly and systematically as possible and should always be explored before the procedure itself begins. Occasionally, the abdominal findings will discourage an elective pelvic procedure or perhaps alter the procedure in some way. Complete abdominal exploration is contraindicated in the poor-risk patient, and it should not be performed in patients with pelvic infections such as acute salpingitis and a tubo-ovarian abscess. Adhesions should not be removed simply for exploratory purposes. Pregnancy is not a contraindication to the abdominal exploration.

* * *

SURGICAL RESECTION OF A TUBERCULOUS ANEURYSM OF THE ASCENDING AORTA—J. L. Kline and J. Durant. New Engl. J. Med.—Vol. 265:1185 (Dec. 14) 1961.

A patient with a tuberculous aneurysm of the ascending thoracic aorta is reported and the literature is reviewed. In addition to the extremely rare occurrence of this lesion, the authors believe that this is the first instance of a tuberculous aneurysm of the ascending aorta surgically treated with a successful outcome.

* * *

IODIDE RETENTION IN CARDIAC DISEASE—G. L. Searle, W. A. Reilly, and K. G. Scott. Metabolism—Vol. 10:848 (Nov., part 1) 1961.

Twelve compensated and 12 decompensated cardiac patients and a control group of 49 euthyroid hospital patients received 100 μc of I^{131} orally. Iodide retention in plasma was significantly greater in the cardiac patients than in the control group; however, neither I^{131} thyroid uptake nor conversion of I^{131} to protein-bound I^{131} were significantly affected.

* * *

POSTOPERATIVE IRRADIATION OF CORNEAL GRAFTS—D. Ainslie and M. Snelling. Lancet—Vol. 2:954 (Oct. 28) 1961.

Sixteen corneal grafts penetrating into vascularized corneas are considered. The grafted tissue became vascularized during the postoperative period. Surface irradiation, using a strontium-90 applicator, was successful in preventing graft opacification due to vascularization. In 13 cases all vessels disappeared. In three some vessels remained, but grafts remained optically satisfactory. It is suggested that the beta irradiation, in addition to a local destructive action upon blood vessels, may modify the immunological reaction.

* * *

ROENTGEN TELEVISION STUDY OF CARDIAC CALCIFICATIONS—N. P. G. Edling. Circulation—Vol. 24:1407 (Dec.) 1961.

In heart surgery the preoperative knowledge of the presence of calcifications in the ostial rings and valves is important. With the introduction of the image intensifier with television the calcifications are more easily and more conclusively diagnosed than by other roentgenological methods. Also calcifications of the coronary arteries are easily observed. In addition, it is possible to exclude cardiac calcifications of surgical importance.

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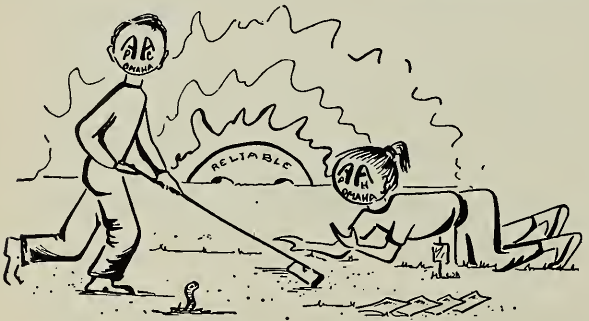

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Parkinsonism Inherited As Dominant Trait

Evidence that parkinsonism, a nervous disorder, can be inherited as a dominant trait was reported in the February 3 *Journal of the American Medical Association.*

Dr. George G. Spellman, Sioux City, Iowa, said the occurrence of the disease in a 36-year-old woman had been traced to her great-grandfather.

The great-grandfather had eight children, three of whom definitely had the disease. One of the three was the patient's grandmother who had four children, three of whom developed the disease, including the patient's mother. The patient was the first of nine children to develop parkinsonism. Later a younger brother was stricken.

The incidence of parkinsonism in this family is so high that it suggests a dominant characteristic, i.e., one that can be handed down by a gene from only one parent, Dr. Spellman said.

Some researchers have shown that the disease could be inherited as a recessive trait, i.e., a disease-carrying gene had to be inherited from both parents in order for the disease to occur in their children, he said. Only one other investigator has produced evidence indicating that the trait behaved as a dominant characteristic, he said.

Parkinsonism typically is a disease of the middle or late years. The primary symptoms are tremor and stiffening of the muscles.

The cause of the disease has not been established. However, heredity has been considered one of the factors involved, Dr. Spellman said, and the appearance of the disease in families has been estimated at from 5 to 16 per cent of all cases.

Airborne Infection Blamed In Recent TB Epidemics

(Continued from Page 26)

from the ship before the active stage of the disease was reached, and the occurrence of the next few cases would indicate airborne transmission of the infection, he said.

TB germs are more resistant to germicides than other harmful organisms and require special cleaning and disinfection, the *Journal* editorial said. However, TB germs which settle on the floor or other surfaces can be killed with recently developed germicidal detergents and germs in the air can be killed with ultraviolet radiation, it said.

The significance of airborne contagion is enhanced by the increasing pace of living with greater crowding and interchange among people and also by a lower level of natural resistance among the population due to early isolation of TB victims and less contact with the disease, the editorial said. Those responsible for the health of persons in restricted areas such as schools, factories and military units particularly should be aware of this type of TB transmission, it said.

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Selectivity in the Study of the Cardiovascular System

HERBERT L. ABRAMS, *M.D.*, Palo Alto

• The principle of selectivity in the roentgenology of the cardiovascular system is now firmly established. The chambers of the heart and certain vascular beds lend themselves admirably to selective catheter or needle study, without the necessity of perfusing large segments of the cardiovascular bed which are irrelevant to a particular study.

A technique of percutaneous transfemoral selective *ciné* coronary arteriography has been developed and applied to clinical subjects. Nevertheless, selectivity has specific limitations, and the use of the selective versus the nonselective approach must be weighed in each case, with the status of the patient as well as the requirements of the diagnostic investigation taken into account in reaching a decision.

TRULY SELECTIVE DEPOSITION of contrast material in the study of the cardiovascular system cannot be construed as a development of the recent past. As early as 1923, Berberich and Hirsch,[4] using 20 per cent strontium bromide, reported the first arteriograms and venograms obtained in man by injection of a contrast agent directly into the venous or arterial bed under investigation. In 1928, Moniz[11] reported the successful study of the cerebral circulation by direct puncture of the carotid artery. Dos Santos,[18] in 1929, obtained satisfactory opacification of the abdominal aorta and its branches using translumbar needle puncture and injection. Two years later, Moniz[10] and his colleagues described the technique of "angiopneumography," as they called it, and employed Forssmann's method of heart catheterization to inject a contrast agent for the demonstration of the pulmonary vessels.

Nevertheless, in 1937 and 1938, when Castellanos and his coworkers[6] and Robb and Steinberg[16] independently described the technique of angiocardiography, their method was essentially nonselective in character. It involved the intravenous injection of a large volume of contrast agent, which mixed with the venous blood and flowed to the heart and great vessels, opacifying all chambers and both of the great vessels in orderly sequence. It was not until 1946, when Chavez[7] and his coworkers published their studies on intracardiac angiocardiography, that the selective method was first successfully applied to the study of the interior of the heart and great vessels in man. Jönsson and coworkers[9] utilized the method of Chavez extensively in the late '40s and early '50s and demonstrated the advantages of "selective" angiocardiography in defining morphologic and functional derangements of the heart with greater clarity and precision.

That this was also possible in the great arterial trunks had been demonstrated by Radner[14] in 1948

Presented before the Section on Radiology at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

From the Department of Radiology, Stanford University School of Medicine, Palo Alto.

Supported in part by a Grant (H-4043) from the National Heart Institute of the National Institutes of Health, U. S. Public Health Service.

when he described a method of thoracic aortography by catheterization from the radial artery.

The study of the visceral branches of the aorta was accelerated by Seldinger's description in 1953 of a technique of percutaneous puncture for catheter arteriography which was simple, efficacious, and did not involve an open surgical field.[19] The design by Ödman[13] of a radiopaque polyethylene catheter which could also be inserted percutaneously gave further impetus to contrast studies of the arterial system in vivo.

Within the scope of this paper, it seems desirable to summarize the present status of selectivity as it applies to a number of specific segments of the cardiovascular system.

1. *The Right Heart Chamber.* Selective study of the right atrium and right ventricle is readily accomplished by the passage of a catheter from a vein in the antecubital fossa, or from the saphenous or femoral vein. This can be done by using a cutdown and employing such catheters as the Rodriguez-Alvarez closed-end woven type with side holes, or by using percutaneous puncture and the radiopaque Ödman catheter with end and side holes. The visualization of the tricuspid valve area, the right ventricular outflow tract, the pulmonary valve and right to left shunts at the atrial or ventricular level is best accomplished by the selective approach. Selective angiocardiography should always be coupled with the acquisition of physiologic data—blood oxygens, pressures, dye curves—as a part of an investigation designed to obtain all possible morphologic and functional information about the problem.

2. *The Pulmonary Artery and its Branches.* The intravenous technique or injection with the catheter in the superior vena cava or right atrium for the study of the pulmonary vessels is usually quite satisfactory. Furthermore, when the objective of the study is to determine the effect of such lesions as carcinoma of the lung on the pulmonary vessels, then it is desirable to demonstrate the superior vena cava as well, in order to be certain that there is no evidence of invasion or partial occlusion of this great vein by the neoplasm. But the most exact study of the pulmonary artery and its branches is accomplished by placing the catheter in the main pulmonary artery or in one of its right or left main branches. This is an ideal approach to the study of pulmonary arteriovenous fistula, or of anomalous pulmonary venous return.

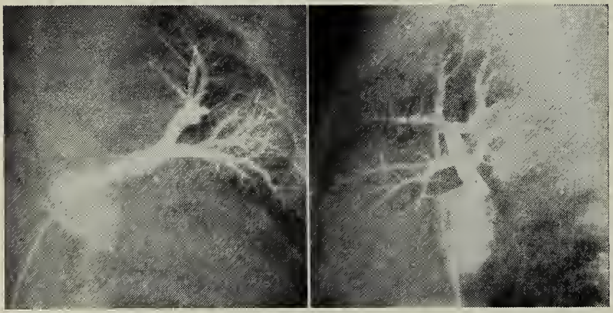

Figure 1.—Selective pulmonary venography. (*Left*) Anteroposterior projection. (*Right*) Lateral projection. A catheter has been passed from the inferior vena cava into the right atrium and through the foramen ovale into the left atrium. The mouth of the catheter lies in the left upper lobe pulmonary vein, the branches of which are demonstrated by retrograde injection. A small amount of the contrast agent is seen in the body of the left atrium.

When detailed study of the small pulmonary arterial radicals is desired, the open end catheter may be placed in the "wedge" position and a small volume of contrast agent (3 cc.) injected by hand. This technique permits excellent definition of the changes in the character of the small vessels associated with pulmonary hypertension.

3. *The Left Atrium and Left Ventricle.* In many young patients, it is possible to catheterize the left atrium by passing the catheter from the right atrium through the foramen ovale into the left side of the heart. This is best accomplished with the catheter inserted from the inferior rather than the superior vena cava. In this way, it is possible selectively to opacify not only the left atrium, but also the pulmonary veins (Figure 1). Obviously, if there is a large atrial or ventricular septal defect, the catheter may pass readily across the septum into the left side of the heart. In patients with a large left to right shunt at the atrial level, it may be difficult to detect an associated ventricular septal defect by oxygen studies alone. It is important in these cases to determine the presence of an atrioventricular canal defect, and this is best accomplished by selective

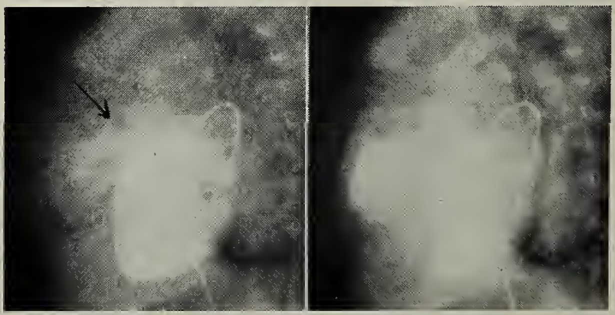

Figure 2.—Left ventricular injection in a ventricular septal defect with left to right shunt. The catheter has been passed from the inferior vena cava into the right atrium, through an atrial septal defect into the left atrium and finally through the mitral valve into the left ventricle. (*Left*) Left anterior oblique projection, one-half second after injection. The left ventricle is filled with contrast agent, and aortic filling is also visible. The contrast agent passes through a membranous septal defect (arrow) into the right ventricle. (*Right*) Left anterior oblique projection, one and one-half seconds after injection. The right ventricle is now more densely opacified.

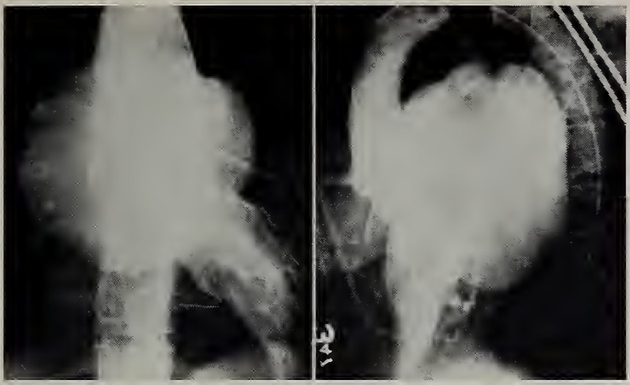

Figure 3.—Mitral insufficiency. (*Left*) Anteroposterior projection. (*Right*) Lateral projection. A polyethylene catheter with a "loop" on the end has been passed from the right femoral artery into the ascending aorta, through the aortic valve, and into the left ventricle. Following the injection of contrast agent, marked reflux into an enlarged left atrium is visible.

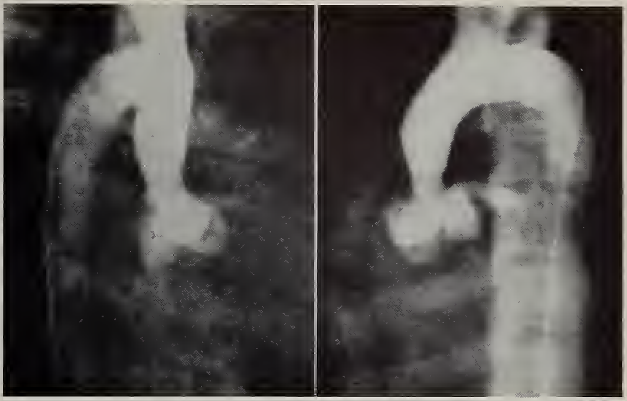

Figure 4.—Supravalvular aortic stenosis. (*Left*) Right anterior oblique projection. (*Right*) Left anterior oblique projection. A polyethylene catheter has been passed from the right femoral artery into the ascending aorta. With the injection of the contrast agent, a discrete zone of supravalvular stenosis is demonstrated. The left coronary artery is dilated, and arises just proximal to the zone of stenosis. Surgical correction of the supravalvular aortic stenosis was undertaken successfully.

injection in the left ventricle to show whether there is a left to right shunt at this level (Figure 2).

The knowledge that catheterization of the left atrium can be accomplished through the atrial septum in the presence of a patent foramen ovale which was of no functional significance prompted the recent development of the transseptal approach using needle puncture.[17] Originally designed to obtain left heart pressures and blood specimens, the method has recently been modified to permit passage of a catheter large enough for selective injection of the left cardiac chambers.

Direct puncture of the left atrium or of the left ventricle also permits selective deposition of contrast agent in these chambers. Although we have done left ventricular puncture, and continue to do it in patients in whom it provides the only route of access to the left ventricle when this must be studied, I consider it a more hazardous procedure than the catheter approach to the left ventricle.

Using percutaneous transfemoral puncture, a radiopaque or nonopaque polyethylene catheter may be passed from the femoral artery up to and around the aortic arch and through the aortic valve directly into the left ventricle. The loop catheter employed for coronary arteriography[3] has provided us with relatively easy access to the left ventricle in patients whose aortic valve is normal, and in whom the major problem is to show the degree of mitral insufficiency (Figure 3). A straight catheter is better in patients with aortic stenosis.

4. *The Aorta.* The role of thoracic aortography has been adeqately defined[2] in the study of coarctation of the aorta, patent ductus arteriosus, aortic stenosis and insufficiency, aortic aneurysm, aneurysm of a sinus of Valsalva, and many other lesions (Figure 4). Although the direct puncture of the ascending aorta was the first method of thoracic aortography to be described, such a blind approach is no longer required. Passage of a catheter from the radial or brachial artery following arteriotomy may properly be employed. Our own preference is for transfemoral percutaneous catheterization (Seldinger technique) and we would use the femoral artery (in preference to the brachial unless the aorta is obstructed).

Although translumbar aortography is a simple and widely used method for the study of the abdominal aorta, it is also a "blind" procedure, and it is my feeling that the hazard is slightly increased as compared with the transfemoral method. The catheter approach, with direct fluoroscopic vision for placement of the catheter, is preferable. Nevertheless, I have not hesitated to do translumbar aortography when circumstances have required its use.

5. *Coronary Arteriography.* In our experience, the impetus to the study of the coronary arterial bed in man is coming not alone from surgeons, as in so many other areas of vascular radiology, but from internists and cardiologists. Basically, the problem is to define the presence or absence of coronary disease in patients whose symptoms of chest pain and whose electrocardiographic findings cannot resolve this matter. Since this is a relatively large group, and since the management of these patients in terms of diet, exercise and anticoagulation must be based on a precise appraisal of the condition of their coronary bed, the increasing use of coronary arteriography must be anticipated.

For nonselective studies in clinical subjects, the loop catheter described by Bellman[3] has proved satisfactory (Figure 5). We have performed numerous studies in animals, varying the type and size of

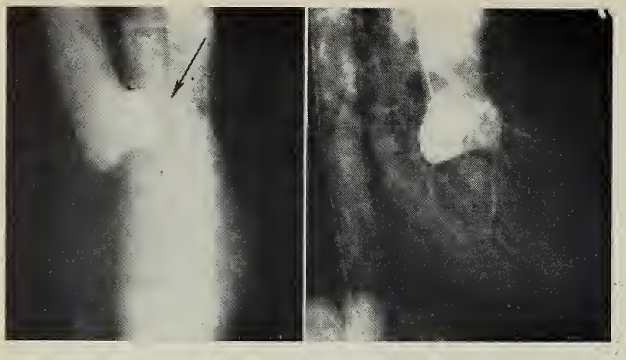

Figure 5.—Coronary arteriography. (*Left*) Left anterior oblique projection. (*Right*) Right anterior oblique projection. A loop catheter, passed from the right femoral artery into the ascending aorta, is in the supravalvular position. Following injection of the contrast agent, the left coronary artery is well visualized, with a discrete zone of narrowing just proximal to its bifurcation into the anterior descending and circumflex branches. The right coronary artery is well filled at this time, and is seen best in the right anterior oblique projection. The position of the loop catheter just above the aortic valve is clearly defined.

catheters, the size of the loop and the concentration of contrast agent. The loop appears to offer some advantages over the straight catheter, particularly in directing the contrast agent to the periphery of the aorta rather than centrally. It must be carefully placed directly above the valve cusps.

Coronary Catheterization

Our approach to selective coronary arteriography has concentrated on the development of a percutaneous transfemoral technique,[15] in contrast to the use of open surgical arterial exposure as advocated by Sones.[20]

In dogs, it proved difficult dependably to utilize a radiopaque polyethylene catheter with a fixed curve to catheterize both the right and left coronary arteries. This problem was resolved, however, by the use of two separate catheters, one for the right coronary artery and the other for the left coronary artery.[15] The right coronary catheter has a curve which corresponds to the aortic arch, but with the distal curve running anteriorly and to the right. The left coronary catheter also includes an aortic curve, but the tip curves to the left and posteriorly. Using the Seldinger technique, it is a matter of only a few minutes to introduce the second catheter when required. Thus, the left coronary artery may first be catheterized, the study performed and immediately thereafter the catheter withdrawn and replaced by a right coronary catheter. This has been done successfully many times in a series of animal studies, and recent experience with a small number of clinical subjects has been satisfactory (Figure 6, A and B). Selective coronary arteriography permits and requires the application of *ciné* techniques, since the fluoroscopic placement of the catheter must be followed by immediate x-ray recording and withdrawal of the catheter tip from the mouth of the coronary artery. Definition on the *ciné* strips is entirely satisfactory for this purpose.

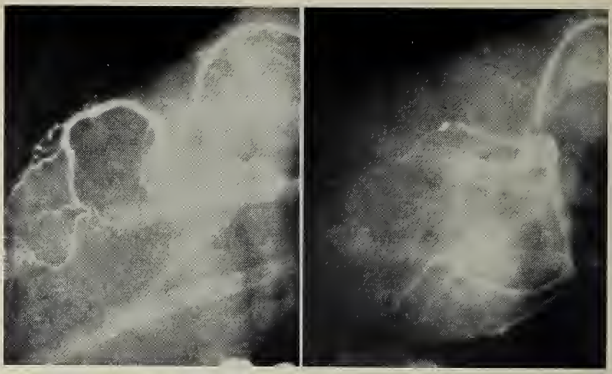

Figure 6A.—Percutaneous selective coronary arteriography. (*Left*) and (*Right*) Right and left coronary arteriograms in a dog. Specially designed catheters have been placed respectively in the right and left coronary arteries. Following the injection of 3 cc. of 76 per cent Renografin, there is excellent visualization of the proximal branches as well as of the distal ramifications.

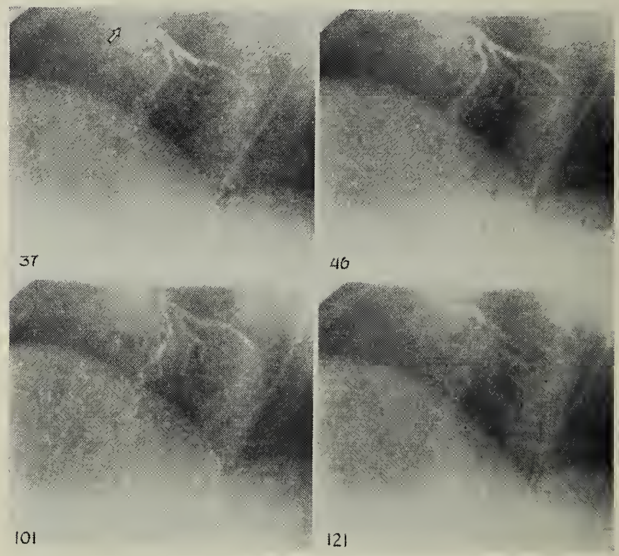

Figure 6B.—Selective left *ciné*-coronary arteriogram in a 59-year-old woman. Four frames have been selected from the sequence which was exposed at a framing rate of 48 per second for a four-second period. A 35 mm. Arriflex camera photographed the phosphor of a 9-inch image intensifier.

6. *Cerebral Arteriography.* Percutaneous arterial puncture and injection are usually entirely satisfactory, and selective injection of the internal or external carotid artery can be accomplished by experienced hands with a high degree of success. Nevertheless it is true that percutaneous carotid artery puncture has produced dissection of the arterial wall, and this has prompted some investigators to advocate transcarotid catheter injection, using the Seldinger technique, so that the needle may be immediately withdrawn. Further advantages

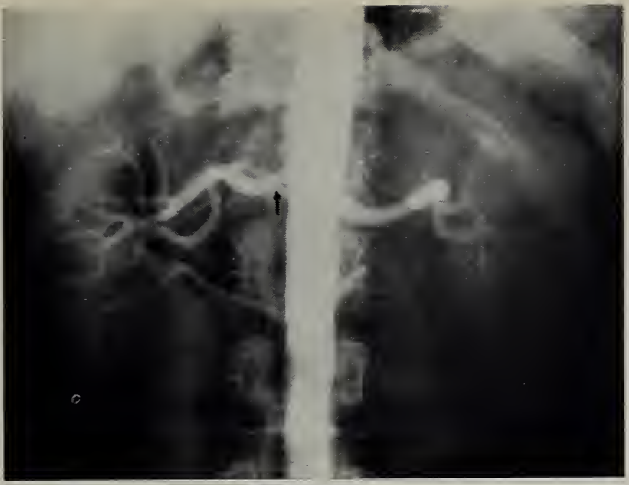

Figure 7.—Bilateral renal arteriography. A polyethylene catheter has been passed from the right femoral artery to the level of the second lumbar vertebral body. Following injection of the contrast agent, both renal arteries are well demonstrated, and there is evidence of narrowing of the right renal artery just distal to its origin.

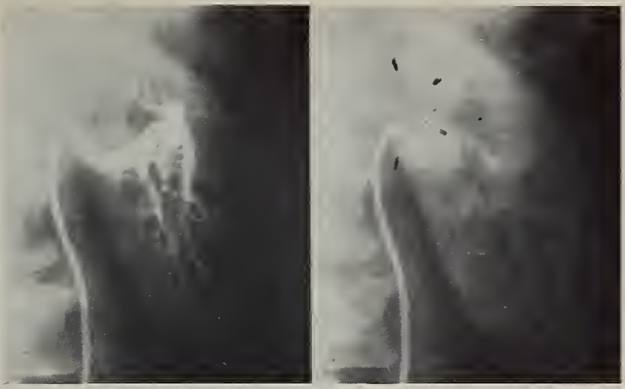

Figure 8.—Selective renal arteriography. (*Left*) Arterial phase. (*Right*) Nephrographic phase. A radiopaque polyethylene catheter has been placed in the left artery, and 5 cc. of 76 per cent Renografin injected. This demonstrates the left renal artery and its ventral and dorsal branches. In one area in the mesial portion of the upper pole of the left kidney, there is failure of filling of arterial branches. The nephrographic phase demonstrates a discrete radiolucent area, representing a renal cyst.

of catheter injection lie in the ease of moving the patient without fear that the catheter will be withdrawn from the artery (which may occur with the needle technique), and in the ability to pass the catheter either into the internal or external carotid artery. Thus, both systems may be studied in sequence with a single needle puncture but without superimposition of the external and internal carotid arterial beds.

When carotid arteriosclerosis is to be investigated, direct injection into the carotid artery is undesirable, since the entire artery must be visualized from its very origin. Injection into the aortic arch through a catheter inserted via the transfemoral route is then the procedure of choice.

Percutaneous needle puncture of the vertebral arteries is successful in experienced hands in about 80 per cent of cases. The vertebral arteries may also be visualized by catheterization from the radial or brachial arteries. Perhaps the simplest approach to the left vertebral artery is transfemoral percutaneous catheterization, since a straight polyethylene catheter can usually be passed quickly from the descending thoracic aorta into the left subclavian artery, and thence into the vertebral artery. In order to study the right vertebral artery from below, a stiff radiopaque polyethylene catheter of the Ödman type may be employed but it should be carefully shaped so as to enter the innominate and subsequently the right subclavian artery. This is, however, far more time-consuming than the left vertebral catheterization.

7. *Renal Angiography.* In the study of hypertension of renal vascular origin, bilateral renal arteriography is necessary, and in these circumstances a single, relatively large bore polyethylene catheter (PE No. 260) with an end hole and side holes may be inserted via the transfemoral route to the level of the second-third lumbar interspace, and 30 cc. of 76 per cent Renografin® injected (Figure 7). The renal arteries usually originate about the level of the first-second lumbar interspace, but there is sufficient reflux with a pressure injection to obtain an adequate bolus of the contrast agent at the mouth of the renal arteries. Moreover, this prevents flooding of the superior mesenteric and celiac arterial bed, and consequent superimposition of these vessels on the renal arteries.

When disease in one kidney is to be studied, the Ödman green radiopaque polyethylene catheter may be shaped with a bend which conforms to that of the renal artery take-off from the aorta and selectively catheterized (Figure 8). In such circumstances, an injection of 5 cc. of 60 per cent Renografin is usually adequate to obtain excellent opacification of the renal arterial bed and a good nephrographic stage. The curve should be directed posterolaterally, rather than anteriorly (as for the superior mesenteric artery), and the lordotic curve of the patient must be taken into account in shaping the catheter. The advantage of selective renal arteriography lies in the assurance that there will be no superimposed vessels to obscure the vascular pattern being studied. In addition, a small amount of contrast agent is used, and unnecessary perfusion of other arterial beds is avoided.

8. *Celiac Arteriography.* Celiac arteriography is useful in the study of the vascular beds of the pancreas, the liver and the spleen. The celiac artery may be selectively catheterized by use of an appropriate anterior curve of the distal end of the catheter.

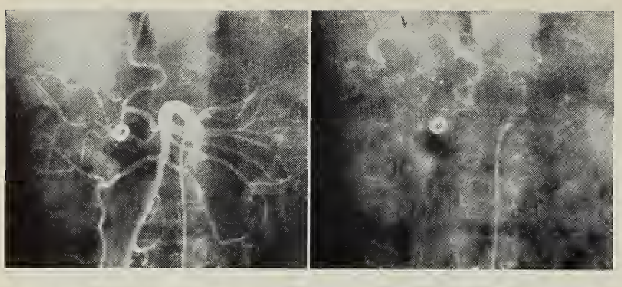

Figure 9.—Superior mesenteric arteriography. (*Left*) Film at one second. (*Right*) Film at five seconds. A radiopaque polyethylene catheter has been placed in the superior mesenteric artery, and with the injection of the contrast agent, there is excellent demonstration of the intestinal branches, the middle colic, right colic, and ileocolic branches. An abnormal arteriovenous communication is visible in the left panel (arrow). In the right panel, the vein which filled prematurely is identified as the right colic (arrows).

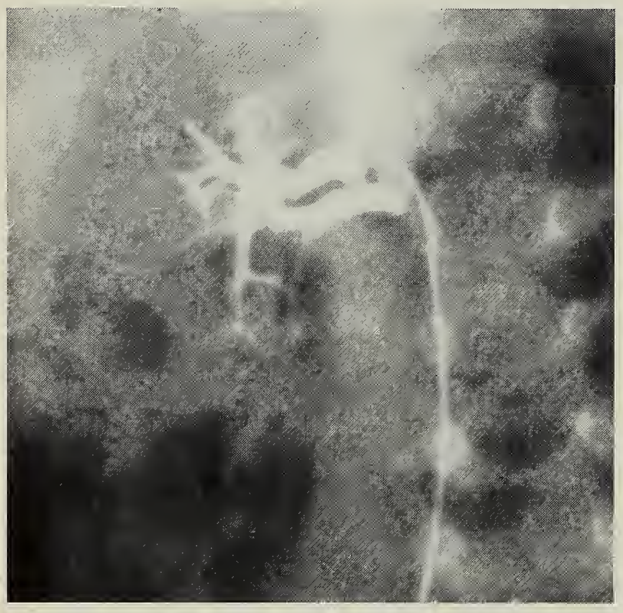

Figure 10.—Selective renal venography. A polyethylene catheter has been passed from the right femoral vein up through the inferior vena cava into the right renal vein. With retrograde injection, filling of two renal veins is demonstrated, and there is also partial filling of the inferior vena cava.

A relatively large volume of contrast agent may be injected slowly under low pressure. Serial filming is required. In order to define the anterior bend of the catheter when the vessel is catheterized, it is useful to carry out fluoroscopic examination with the patient in lateral projection. Simultaneous biplane studies, although desirable, are difficult to obtain because of the scatter produced in studying the abdominal region. Therefore, two injections are necessary if both anteroposterior and lateral views are to be obtained. In studying the problem of pancreatic carcinoma, celiac arteriography may demonstrate not only vessel displacement but also abnormal "tumor vessels" at times.

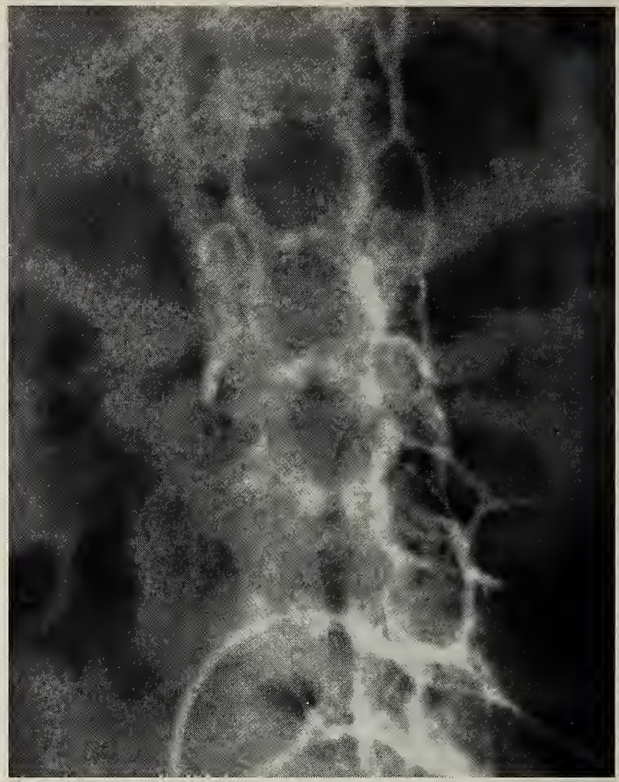

Figure 11.—Selective lumbar venography. The catheter has been passed into the inferior vena cava, and into a left lumbar vein. Following the injection of the contrast agent, the paravertebral plexuses and the ascending lumbar veins are well filled.

9. *Superior Mesenteric Arteriography.* The study of the superior mesenteric arterial bed has not as yet reached a point where its value can be assessed. We have undertaken to use this method in the evaluation of gastrointestinal bleeding of unknown origin (Figure 9), but have not had adequate experience as yet to indicate whether this will provide a useful ancillary method for defining the precise site of hemorrhage in patients with acute bleeding.

10. *Other Vascular Beds.* A number of other areas of vascular visualization may be mentioned briefly. *Inferior venacavography* is best performed by using the Seldinger technique and passing catheters into both femoral veins, with simultaneous injection through each catheter of a total of 40 cc. of 76 per cent Urografin®. The femoral veins may also be studied in this way. *Renal vein catheterization* is readily accomplished from the femoral vein if the catheter is bent to conform to the shape of the renal vein (Figure 10). Study of the renal vein is sometimes useful in cases of renal neoplasm or when renal vein thrombosis is suspected. *Lumbar vein catheterization* may provide an alternative route of demonstrating the azygos circulation, although this has not yet been adequately explored (Figure 11).

Subclavian arteriography via the transfemoral route may be very useful in the study of scalenus anticus syndrome or of thrombosis or aneurysm of the subclavian artery. *Femoral arteriography* may be undertaken either by direct needle injection, or, with better results in our hands, by percutaneous catheter injection. In the study of an occluded femoral artery, the contralateral vessel may be utilized as the avenue of entrance to the aortic bifurcation. The portal venous circulation is best studied by direct *splenoportography,* which also permits visualization of the splenic vein and of the communicating venous system in the presence of portal or splenic vein obstruction.

DISCUSSION

The radiographic study of the cardiovascular bed has developed within recent years into an important, specialized segment of diagnostic roentgenology. Techniques for studying selectively the arterial and venous segments of the vascular bed are being ever more widely utilized, and have opened many new fields of radiologic study. Obviously the scope of this paper does not permit exhaustive treatment of this subject—only emphasis of a few significant elements in the approach to angiography. Further investigation of the normal is required in visceral vascular beds before the adequate assessment of disease patterns will be accomplished. In other areas, the definition of the normal has already been largely accomplished.

In the controversy over whether roentgen recording of cardiovascular studies is best accomplished by serial large filming or *ciné* techniques, the proper emphasis is on the complementary qualities of the methods and the desirability of using both. In the study of shunts and valve motion, for example, the *ciné* technique has proved especially valuable in our hands; for the definition of fine morphologic detail, large film remains superior. When *ciné* techniques are employed, the biplane approach so well established in large filming is preferable.[1]

The importance of the principle of selectivity in cardiovascular study is that it permits the deposition of contrast agent precisely at the point to be studied, and diminishes the masking and distraction by opacified vessels outside the field of interest. There is relatively little dilution by circulating blood of the contrast agent, and therefore the total dose to which the organism is exposed may be significantly diminished.

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California Physicians' Service

T. ERIC REYNOLDS, *M.D.*, Oakland

THERE SEEMS TO BE widespread agreement among American physicians that the voluntary prepayment mechanism is the main bulwark of the free profession of medicine. Also, the opinion is widely held that medically sponsored plans should have a substantial and important place in this picture; not that it be a monopoly—far from it—but that it should be the proving grounds for pilot programs and continue to have a controlling share in the formulation of policy.

The various Blue Shield plans are the basis of American medicine's participation in voluntary prepayment, and California Physicians' Service is Blue Shield in California. As such, it is the official arm of the California Medical Association.

CALIFORNIA MEDICINE has brought together for its readers a series of articles by men knowledgeable in this field. The facts they present speak for themselves. The opinions expressed are their own, and they have neither been inspired nor censored by the governing body of California Physicians' Service. Because of the breadth and depth of the authors, it is unlikely that their opinions would be of the inflexible and uncompromising nature so commonly expressed by people less versed on the subject. Now, a word about the authors.

Dr. Dwight H. Murray is engaged in general practice in Napa, California, where he settled after he was released from the Medical Corps of the Navy in 1921. He was a member of the Board of Trustees of the American Medical Association from 1945 to 1955. Then he became President-Elect of the A.M.A., and succeeded to the presidency in 1956-57. He is now a member of the Board of Directors of the National Association of Blue Shield Plans.

Dr. Donald D. Lum was president of the Alameda-Contra Costa Medical Association in 1944. He was a member of the Council of the C.M.A. for 13 years, and chairman of the Council for six years. In 1945 and 1946 he was a member of the C.P.S. Board of Trustees, and now is chairman of the C.M.A.-C.P.S. Liaison Committee. He is an alternate delegate to the House of Delegates of the A.M.A. He is currently president of the Alameda Municipal School Board.

Dr. John G. Morrison practices medicine in San Leandro, California. He was president of the Alameda-Contra Costa Medical Association in 1960. A member of the C.M.A. Council for two years, he is also a member of the C.P.S. Board of Trustees and has been chairman of that body for two years.

Dr. Paul I. Hoagland, who was president of the California Society of Internal Medicine in 1954-55, is a practicing physician in Pasadena. He is a member of the C.P.S. Board of Trustees and of the C.P.S. Executive Committee and Medical Policy Committee. He is a member of the C.P.S.-C.M.A. Liaison Committee, and serves on the board of directors of the National Association of Blue Shield Plans.

Mr. Ransom M. Cook, president of Wells Fargo Bank,* first became a member of the Board of Trustees of C.P.S. in 1947. He served until 1951 and was reelected in 1954. During all his time on the board he has been a member of the Finance Committee, having served for a time as its chairman. He was president of the California Bankers Association 1958-59 and is currently president of the Reserve City Bankers Association.

Mr. E. R. Paolini is vice-president-general manager of California Physicians' Service, where he has been an officer since 1945. Before coming to C.P.S., he was an administrative assistant and cashier of the Bank of America. He is a member of the board of directors of the National Association of Blue Shield Plans and is a technical advisor to the A.M.A. Committee on Insurance and Prepayment Plans, under the Council of Medical Services. Mr. Paolini is president of the Society of Medical Care Plan Administrators. He is also the executive vice-president of California Physicians' Insurance Corporation.

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The Blue Shield Concept

DWIGHT H. MURRAY, *M.D.*, Napa

HISTORICALLY, the medical profession has been responsible for the health care of the people of our country. Physicians, as guardians of the public health, have been accepted in that role by the people.

In the past few decades the maintenance of this position has become more difficult. Medical science has made rapid strides. Improved drugs and techniques are available. The death rate has constantly declined. And, simultaneously, these advances have brought increased costs.

The "horse and buggy" doctor is no more.

Blue Shield came into this picture in a small way in about 1917, when county medical bureaus were set up in some states to provide a prepayment service for the public. Regular payments during periods of well-being created a pool of funds for the costs of illness when it struck.

In 1938 the first step toward a statewide plan of this type was taken in California with the formation of California Physicians' Service. This plan was based on the established need of the public to recognize medical costs as a part of their total expenses —to pay while well for services to be provided when ill. In short, to budget the costs of medical care.

C.P.S. undertook this program knowing nothing of whether it would or could work. In empirical fashion it took up and dropped numerous proposals, established clinical and actuarial figures never before available, and it made mistakes. Above all, it established the medical profession as the sole body which considered the health care of the people of primary importance.

The medical profession undertook, in one step, to let the people know that it stood ready to assist them in their economic as well as their clinical ills and that this guarantee of service was to last forever.

Despite difficulties it encountered because there were no preexisting formulas, C.P.S. stayed doggedly with its original premises: The plan must be nonprofit. There must be free choice of physicians by the patient. There must be free choice of hospitals. There must be community—grass-roots—management and policy making. There must be a guarantee that the patient would receive the care needed to restore his health, rather than an agreement to pay out *X* dollars per injury or illness. There must be financial responsibility, even if the participating physicians received only a fraction of their normal fees for services.

The rate of payment to physician members was based on units rather than dollars—and the value of a unit could not be established until the number of dollars available was known. As a result, in some months the physician members received only 25 per cent or 50 per cent or 70 per cent of what were considered fair and equitable fees. In one special project during World War II the unit rate at one time was 0. All the services provided by physicians during a full month at that time went completely unpaid for.

Fortunately, there were medical leaders in a number of counties of the state who served as rallying points for C.P.S. By their own personality and integrity they kept their colleagues informed and willing, regardless of fees, to prove that medicine was still interested in the welfare of the patient first.

With the passage of time, and with the benefit of a constantly expanding field of knowledge, C.P.S. began to come into its own. Similar plans, based on the same fundamental premises, sprang up in other states. Ultimately, a national organization of Blue Shield plans was formed. It has grown to a great size today and is nationally famous for providing its members with factual and technical information, for settling disturbing problems encountered when the patient moves from one jurisdiction to another and, most important of all, for supplying the means by which employed groups with places of employment in more than one state may secure coverage wherever they are situated.

Basically, Blue Shield plans are statewide in nature. However, through a federation of such local plans, they become nationwide and achieve the stature needed to provide services for nationwide employee groups.

More than that, by serving on a nonprofit basis they are able to set the standards by which all prepayment medical care plans must operate. Other carriers are faced with medicine's own answer to the health care needs of the people; they must either get out of the picture or get into it as competitors. And, as always, competition is good for people. Here it provides medically established fields of service, medically acceptable methods of payment

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Member, board of directors of National Association of Blue Shield Plans.

for services and, most important, standards which must be met if both the people and the physicians are to be happy enough to continue their support.

Fortunately, with the growth of Blue Shield plans throughout the country, there has come a greater understanding by people of what Blue Shield really represents. It is more than an insurance carrier. It is more than a prepayment plan sponsored by physicians rather than by laymen.

It is, in short, a philosophy of service to people. It is the medical profession's acceptance of responsibility to people and its guarantee that that responsibility will be carried out. It is the profession's recognition that the patient has economic as well as physical ills. It is the profession's assurance that *all* the problems of the patient, both physical and economic, will be recognized and cared for.

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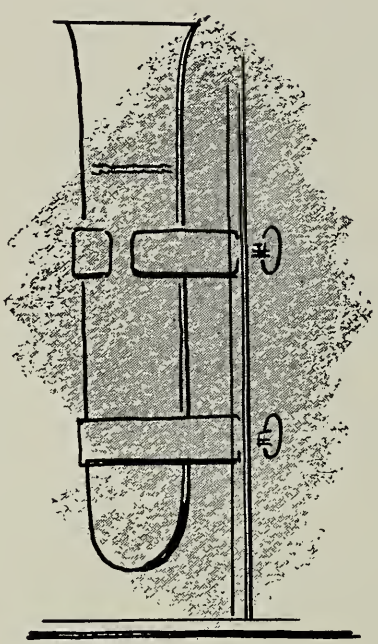

The C.M.A.-C.P.S. Liaison Committee

DONALD D. LUM, *M.D.*, Alameda

The California Medical Association-California Physician Service Liaison Committee was established in February 1960 by a resolution adopted by the House of Delegates of the C.M.A. The resolution read as follows:

> *Resolved:* That a committee be appointed to act as a liaison committee between the Medical Services Commission and C.P.S. and to review the medical coverage of C.P.S. contracts so that it can lead the way in furnishing the most medically advanced and adequate coverage, as it did in its pioneer medical insurance, and be it further
>
> *Resolved:* That this committee be empowered to make recommendations on all new contracts and renewals, to be acted upon by the C.P.S. Board of Trustees, and to report annually to the House of Delegates.

The Committee appointed was as follows: Clarence Albaugh, M.D., Donald Campbell, M.D., Paul Hoaglund, M.D., Edward Liston, M.D., Robert McNeil, M.D., George K. Wever, M.D., Carl Anderson, M.D., Donald Harrington, M.D., and Donald D. Lum, M.D. (chairman).

At its first meeting in June 1960 the assignment given it by the Council was discussed in detail. The committee interpreted the House of Delegates' resolution which called for its creation as a charge to lead the way in furnishing through C.P.S. the most medically advanced coverage that could be developed.

In preparation for the discharge of this responsibility it seemed prudent to review the evolution of C.P.S. from its beginning in 1939 to its present form and function, and to determine in what ways it could be strengthened and improved to fulfill its purpose more adequately.

The past philosophy of C.P.S. is well known. It was established to provide prepaid medical care to low income groups through service contracts, and to make such care available, but with provision for additional charges, to group members whose income exceeded the income ceiling provision set forth in the group contract.

Essentially, this philosophy is still the basis of the C.P.S. operation. However, developments in economic, political and market patterns since the end of World War II have obliged the organization to adapt it to the changes that have occurred. The original income ceiling of $3,000, for example, which in 1939 fairly reflected the dividing line between low and moderate family purchasing power, is no longer valid. With inflation, the purchasing power of a $3,000 family income in 1939 would be higher than a $6,000 annual family income today. In brief, as the economic arm of California medicine, the C.P.S. operation is acutely affected by and must adjust to changes in both the economic climate and the patterns of medical practice.

Today C.P.S. is committed to four basic operational policies within its original philosophical concept:

1. To provide a sound mechanism for the prepayment of medical care;

2. To further the cause of the prepayment movement, nationally, in a manner compatible at all times with the best interests of the subscriber, the physician member, and California medicine;

3. To assist county medical societies in the development and conduct of experimental programs;

4. To act as fiscal agent for California physicians with respect to state and federal government medical programs.

These policies are sound. They permit C.P.S. to participate in the national movement while retaining its local identification and effectiveness, and they should be retained as the bases for such future policy determinations as may be necessary. And the future will demand such determinations. Neither medicine nor C.P.S. exists in a vacuum. Both will be called upon to adjust to specific economic, scientific and political developments, many of which cannot be predicted. This is understood. To assist the corporation in meeting them promptly and effectively is one of the purposes of the Liaison Committee.

Within the frame of the predictable, however, the committee reached certain convictions based upon a detailed study of the C.P.S. operation and of the organization's intrinsic value potential to the public and to California medicine.

It felt that C.P.S. should be permitted to grow in proportion to anticipated increases in the state's population. As long as the competitive situations within the medical prepayment and insurance field

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Chairman of C.M.A.-C.P.S. Liaison Committee.

continue, there seemed to be no reason to assume that any single organization within it would grow unduly or reach a monopolistic position. As a matter of present fact, fully 80 per cent of the new groups underwritten in California by any carrier, had previous coverage under another carrier.

The committee felt that C.P.S. should be prepared to continue to cooperate, and in greater degree, with federal and state agencies; that C.P.S. should continue to offer programs based upon the service benefit concept, adjusted to varying income levels and fee schedules, and that it should also offer programs of other types. To assist the corporation in its efforts to meet consumer demands, the committee recommended that C.P.S. not be limited in its marketing approach by regional or county programs, but be free to make all contracts available on a statewide basis.

These conclusions, all of a basic nature, were communicated to the Council in the Committee's interim report of July 1960. They have served since as the reference points by which subsequent specific committee recommendations have been guided.

Most of these have dealt with fee schedule-income provision relationships. The committee is in unanimous agreement that C.P.S. must be equipped with a sequence of income provisions with properly related fee schedules in order to meet market demands. The A-schedule with a $4,200 family income provision is economically obsolete from both the public's and the physician's point of view. An income of $4,200 has a purchasing power of $2,100, or less, in 1939 dollars, and as a bench mark for service benefits it is inequitable to the 1961 consumer. And the composite conversion factors of $3.20 (Relative Value Study, 1957) and $2.92 (Relative Value Study, 1960) reflected by the A-schedule, are equally unrealistic from the physician's point of view. The Liaison Committee, accordingly, recommended that the C.P.S.'s A-schedule contracts be withdrawn from the market and that in-force A-schedule groups be converted to higher schedules and income provisions, reflecting some reasonable degree of parity with the present purchasing power of the dollar. This recommendation was adopted and C.P.S. has withdrawn A-schedule contracts from the group market and has nearly completed the conversion of in-force A-schedule groups to higher schedules and more realistic income provisions.

In the interests of equity to both the physician and the consumer, the committee has studied the relationships between fees and income ceilings reflected by the B, C, D and E schedules.

The current B-schedule of allowances authorized for C.P.S. use was developed before the completion of the C.M.A. Relative Value Study. Like the A-schedule, this schedule, too, is approaching economic obsolescence. The committee has recommended that it be converted to the 1960 Relative Value Study with a conversion factor of $4.00, without any change in the income provision of $6,000. It has also recommended a family income provision of $7,500 and a composite conversion factor of $5.00 (1960 Relative Value Study) for the D-schedule, in order to enable C.P.S. to participate in national agreements which would offer Blue Shield coverage to national or industry-wide accounts.

The committee believes that C.P.S. participation in national programs is necessary, not only as a contribution to the solidarity of the professionally sponsored Blue Shield movement, nationally, but in the interests of California medicine as well. With the explosive increase in the California population, the state has become a target market for national industries. More and more of them, for obvious economic reasons, are locating plants and personnel in the state. However, fringe benefits are most often negotiated on a national basis at home offices located out of state. Unless C.P.S. can participate in these negotiations through National Blue Shield, its public usefulness and its effectiveness to California medicine will be subject to erosion as more and more of the state's work force become subject to out-of-state national agreements.

This situation is a matter of concern to the American Medical Association. At its request, the National Association of Blue Shield Plans has been studying techniques by which the various Blue Shield plans throughout the country could participate in national underwriting ventures, despite differences between individual plans.

A proposal has been made by National Blue Shield based upon a single, uniform national contract and an underwriting technique by which a single premium would be paid to National Blue Shield and then distributed to local plans where payments to physicians would be made according to a national formula or by the one in use by the local plan, should this be more desirable.

The national formula, called the Professional Services Index, proposed as a mechanism for determining dues rates for national accounts, does not appear to be incompatible with present C.M.A.-C.P.S. policy. However, since it is still under study, the Liaison Committee did not feel that direct action upon it was necessary at this time.

The committee, nearing the end of its second year of operation, is still in the process of defining its objectives and exploring the ways and means by which they might be achieved. Essentially it construes its function as one of inquiry, evaluation and recommendation. However, as the year has passed it has become aware of another responsibility, namely, that of communication.

It is natural, perhaps, that the individual physician, caught up in the demands of practice, should feel no real sense of identification with C.P.S. or its problems. Yet when all the extenuations are allowed, the fact remains that the corporation was founded as an expression of California medicine's concern for the future of the individual, private medical practice with respect to both the physician and the patient, in an economy of mass production, total consumption and rising costs. By providing the public with a viable prepayment mechanism geared to fees for services, the corporation has in fact protected the private physician from economic and political pressures that no individual physician could have withstood alone. Additionally, it set the example for what is now known nationally as voluntary medical insurance. In 1939 the commercial carriers felt that medical care was uninsurable. C.P.S. experience clearly demonstrated that it was insurable, and the insurance industry was not long in following the lead thus provided. If C.P.S. and other similar plans had failed in this endeavor there is small doubt that medicine would be a government monopoly today.

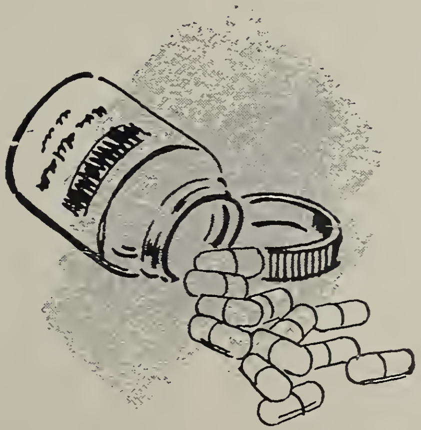
The investment made by California physicians to finance and nurse the corporation through its early years is probably the best one they will ever make. Over a period of 22 years C.P.S. has achieved a level of public respect and endorsement which is one of the soundest social assets California medicine owns today.

The Liaison Committee is pledged to the enhancement of that asset by every prudent means within its powers. It is not the feeling of the committee that C.P.S. should seek a position of monopoly in its field. On the other hand it is the committee's intent to encourage and support such flexibility and experimentation within the corporation as may be necessary to keep pace with changes in medical practice and to provide the public with the best *values* available in prepaid coverages. For example, it has recently recommended study and field trial of coverage for in-hospital emergency psychiatric care, and nursing care in the patient's home.

Its actions in implementing this intent will be reported to physician members, whose comments on them will be received with appreciation. C.P.S. is not a remote entity. It is a vital, dynamic association of local people—patients, physicians, and a loyal administrative staff—bound together in a cooperative endeavor to solve an economic problem in a manner compatible with American tradition. On its record it deserves your support. If you cannot in good conscience give it that, then give it your honest criticisms. The Liaison Committee will welcome your opinions, whatever they may be, and give them objective consideration when formulating its recommendations to the Council.

The successful operation of C.P.S. is an obligation of the C.M.A. to the public and to industry. It cannot be invalidated, morally or legally, and it should be shared by every physician in California practice. With this conviction, your C.M.A.-C.P.S. Liaison Committee enters its third year of operation.

2225 Central Avenue, Alameda.



The Origins and Objectives of C.P.S.

JOHN G. MORRISON, *M.D.*, San Leandro

At the turn of the century, medicine slowly emerged from a rule of thumb period which had persisted for ages. Medical education began to turn away from generalities toward specifics. Inquiry, experimentation and research began to replace pure tradition in medical practice.

As diagnostic and treatment procedures became more precise, medicine became more and more involved with the other basic scientific modalities and technologies. The net effect of this involvement was obvious—an increase in both the effectiveness and the *cost* of medical care.

In 1913, the eminent Californian, Dr. Ray Lyman Wilbur, was among the first representatives of the medical profession to point out the social problems created by these economic developments. In an address before the American Academy of Medicine, of which he was then president, Dr. Wilbur accurately predicted the social complexities involved by the closer ties of medicine to the basic sciences and urged the profession to seek a solution.

Perhaps because Dr. Wilbur was a Californian, the California Medical Association became especially active in organizing and implementing research in the field of medical economics. It is of historical interest that the possibility of state governmental participation in the financing of medical care was particularly studied by the C.M.A. In 1935, two proposals toward that end were presented to the state legislature by a special C.M.A. committee. Both were rejected.

The C.M.A. then turned its studies to the possibility of a professionally sponsored prepayment plan. It was recognized by the planners that any meaningful program would have to incorporate the assurance to persons of moderate means of a fully paid medical bill for *services* provided by the contract. Convinced that people of good will would work together for their common good, the founders felt that a simple, voluntary, nonprofit corporation to distribute the costs of health care would enable the people of the state to obtain this care on a budgeted prepayment basis. To safeguard public interest, they stipulated that the plan must be administered *without injury to the standards of medical service, without disruption of the physician-patient relationship, without profit to any agency, and without restriction of an individual's fundamental right to select his own physician.*

Upon these basic concepts, as plain and utilitarian as homespun, the C.M.A. authorized the establishment of California Physician's Service in December of 1938. On February 2, 1939, incorporated as a nonprofit membership corporation under the California Corporations Code, and financed by loans from the California Medical Association, C.P.S. opened its doors for business—the first statewide prepaid medical service plan in the nation. Dr. Ray Lyman Wilbur served as its first president.

From its beginning, C.P.S. was viewed by the California medical profession as an experimental medium, a pilot plant, whose essential purpose was to develop and implement ways and means of maintaining an equitable relationship between the costs of medical services and the economic ability of the public to pay for them. At no time was the organization considered a "business" in the usual meaning of the term. To assure C.P.S. the flexibility needed for research and experimentation, for trial and, sometimes, error, the profession agreed to, and indeed did, accept prorated fees when necessary to assure the continuity of experimental effort. This unique, voluntary commitment on the part of participating physicians, which continues today, was recognized by the State Supreme Court in 1946 in its decision in the *C.P.S. vs. Garrison* case and thereby granted a special status to C.P.S.

With the passage of time, the complexities of medical economics have increased. C.P.S., as the first Blue Shield Plan in the nation, has faithfully followed the objectives laid down by the original planners. It has made vigorous attempts to provide programs which are acceptable to the public and the medical profession. It has maintained close liaison with the California Medical Association. It has been in the vanguard of providing broad experimental health care programs—well ahead of the great majority of plans throughout the nation. It has exerted substantial leadership in the entire prepaid health care field and unquestionably has stimulated the development of high quality programs through a variety of other carriers.

With such a sound foundation provided by our forebears in California Medicine, C.P.S. continues to merit the support of the profession. The future horizons of prepaid health care are not yet in view.

333 Estudillo Avenue, San Leandro.

Chairman of the Board of Trustees, California Physicians' Service, and Chairman of the C.P.S. Executive Committee.

The Effect of a Service Type Medical Care Program On the Practice of Medicine

PAUL I. HOAGLAND, *M.D.*, Pasadena

NOT INFREQUENTLY we hear the statement made that service type plans, with their fixed fee schedules, lead to mediocrity in medical care. This sweeping indictment needs clarification and a clear rebuttal if we are to obtain the most that is available from our Blue Shield program.

It cannot be gainsaid that a service type program, if improperly and inadequately handled, is degrading to the practice of medicine. We have only to look at the Bureau of Public Assistance Medical Care Program, the so-called O.A.S. plan, to have a typical example. I doubt if the State Department of Social Welfare has any real conception of the smoldering irritation to doctors that its cumbersome forms, complicated prescriptions and formulary, and inadequate fees produce. It is hard to practice careful medicine when the "red tape" alone uses up the time alloted for the single level office visit that is generally recognized. The temptation is to provide the same single level of minimal care. Many doctors, and quite understandably, prefer to care for the patient gratis and not be bothered with the forms. This, I believe, is a mistake on our part for one very simple reason: We should bill for every service rendered, no matter how much trouble it is, in order not to place faulty cost-of-medical-care statistics in the hands of the Department of Social Welfare. There is so much the politicians do not know now about the cost of medical care for the aged indigent that it ill behooves us to allow any more misinformation to fall into their hands. But this is really not the voluntary approach to a service type medical care program such as Blue Shield.

Let us turn to the brighter side of the adequately administered service type program, such as we now have in California Physicians' Service and are rapidly developing at the national level as well. The Board of Trustees of C.P.S. is convinced that when fees are adequate and special services recognized, a comprehensive service type plan should have only a beneficial effect on the practice of medicine. With the development of our Relative Value Studies it is now possible to do this. Scrutiny of our present contracts should convince even the most skeptical of our colleagues if they would just take the trouble to look. How many physicians have actually compared Fee Schedule D with the fees they charge? This fee schedule is being offered wherever possible and has been approved for national contracts, so that we may expect to see a good deal of it. Fee Schedule C is still in general use, but Schedule A is no longer being sold and Schedule B is being revised to conform with the 1960 Relative Value Study.

With an adequate service plan, we as physicians have a free hand to treat our patients as we think they should be treated. We are free to order what diagnostic studies and therapeutic measures seem indicated without having to worry too much about whether the patient can pay for them. True, there may be limitations in this coverage, but with a good service plan the basic tools are there. We are encouraged to spend as much time and effort as is indicated in order to properly diagnose and treat the problem. Consultations are almost unlimited. If we do not receive an adequate fee for such care as we provide, let us pause to consider whether or not this might be our own fault. After all, an "X" in a box on a report form does not mean much to our medical consultants. C.P.S. tries to provide the simplest forms possible, but when we have a complicated problem let us be sure that we bill for the added services rendered and that the diagnosis (or a letter of one paragraph accompanying the billing form) justifies an additional payment. We are confident that C.P.S. will pay for the added time and care provided if it has the facts. Is there another plan that will compensate us for two hospital visits a day when necessary? Even if we choose to be one of those who handle C.P.S. patients only on an indemnity basis, we owe it to our patients and to medicine in its fight against government regulation to be sure that our patient is enjoying the maximum benefits of his coverage.

Looking at this topic from an entirely different aspect—the political one, if we may—an adequate service type program remains our most potent weapon for the preservation of the practice of medicine as we know it. We hear more and more the contention of leaders and representatives of Labor that

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Vice-Chairman of the C.P.S. Board of Trustees, and Member of the Board of Trustees of the National Association of Blue Shield Plans, Inc.

"adequate medical care is a fundamental right of every man, woman and child in America." With this principle we can hardly disagree, for that has always been the goal of medicine in this country, where we do indeed supply the world's best care. At the same time, we know that Labor demands the security of a service type coverage; and we can no longer doubt that, if we don't provide it, Labor will go to the government for it. Labor knows that benefits for medical care for which management pays are provided in lieu of a raise in wages.

I have heard a good many representatives of Labor expound on their ideas of adequate medical coverage. I have yet to hear one talk about anything but an adequate fee for the doctor, and precious few of them fail to recognize the appeal and propriety of free choice of physician. Labor, in my opinion, is a better friend of the doctor than many of us have recognized. We are well advised to provide the members of labor organizations with the adequate service type program that they want, and by thus regarding them as first class citizens we will have gained a first class friend. To fail to recognize the fundamental necessity of an adequate service program is the shortest route to complete national regimentation.

At its interim meeting in December of 1960, the House of Delegates of the American Medical Association recognized these fundamental facts, especially the need of an adequate Blue Shield program as a weapon to be utilized for the preservation of private practice. The National Association of Blue Shield Plans was recognized and commissioned to make every effort to develop a product that could be sold the nation over. Exclusive of farm labor, 65 per cent of the laboring market today is employed by companies that have installations in more than one state or Blue Shield Plan area. It seemed a vital necessity that the 80 odd plans develop some sort of uniform basis for national accounts. A relative value study was made of actual payments of all Blue Shield plans (equating each plan's fee schedule with the allowance for appendectomy or for the 14th hospital day as a base). From this study a Professional Services Index has been formulated which is amazingly consistent throughout the plans and in excellent conformity with the California Medical Association's own Relative Value Study. This index is not, as rumor has it, to be the basis of a "nation-wide fee schedule." Its chief usefulness will be in underwriting for national accounts. Each plan will be expected to apply its own locally appropriate conversion factors for various income levels, or use its own fee schedules where consistency permits. Thus, the National Association of Blue Shield Plans will have a potent weapon for national contracts as well as an answer to the mounting criticism of our failure to reach the difficult groups not yet covered by health insurance.

In conclusion, let me reemphasize that an adequate service type prepayment program properly handled is of great benefit to the practice of medicine, not only from the standpoint of adequate patient care, but also and equally important from the standpoint of preservation of practice independent of government regulation. No one claims that the quality of medical care will improve with government regulation. Here is our challenge and our greatest opportunity to serve the public. In spite of its bigness, Blue Shield represents medicine and one of its main purposes is to interpret doctors' ideas and put them into its plans, if these suggestions are within the limits of actuarial feasibility and marketability.

It is not enough to oppose, we must propose. Our best proposal is Blue Shield, a unique opportunity to provide quality medical care for those who have to work for a living and are not in the higher income brackets, to say nothing of the problem of those over 65.

Blue Shield is the doctors' plan and every one of us has a responsibility to see that we maintain this, our most effective weapon, in the running fight against bad socialism. We must work together if we are to survive. The Board of Trustees of C.P.S. and its staff are a dedicated group who are eager to do what is best for the practice of medicine in California, as well as to continue, under the aegis of the California Medical Association, to act as leaders in the field of prepayment nationally.

65 North Madison, Pasadena.

The Financial Responsibilities of California Physicians' Service

RANSOM M. COOK, San Francisco

California Physicians' Service has a serious responsibility to the public as well as to the medical profession. It is the duty of the state government to see that those engaged in the insurance business conduct themselves in such a way that those who are insured can rely on performance under their insurance contracts, and that the money paid in for this insurance protection is properly administered.

To obtain permission to enter the insurance business in California requires compliance with strict rules set up for the insured's protection. C.P.S. has not been required to accept supervision from the State Insurance Commissioner because it is a cooperative effort of the medical profession which the profession underwrites by the unqualified commitment of the C.P.S. physician members to perform the physician services covered by C.P.S. contracts.

Theoretically, it might be possible for C.P.S. to have no reserve funds at all and to simply distribute its receipts to the doctors from time to time on a pro rata basis. But that would be unfair to individual physicians as there would be wide variance in the amounts they would receive for their services from month to month and year to year, and the valuable statistical data accumulated by C.P.S. as to the cost of medical care would be lost.

It seems unlikely that physicians would like to have an arrangement whereby they had no measuring stick to indicate their fees for services performed to this group. It is unlikely that this would be a satisfactory arrangement either for the patient who might easily take the position that the profession might tire of its obligations and withdraw from C.P.S.

Furthermore, it is quite unlikely that the state government would long condone an operation of this kind where none of the financial contributions required for commercial insurance were complied with. The C.P.S. Trustees have, therefore, taken the position that the financial policy to be followed was one which would in a reasonable time place C.P.S. in a position to conform to the reserve requirements of a commercial insurance carrier, so that public and physician alike have all the financial safeguards that would exist if C.P.S. were an insurance company. This has been substantially accomplished gradually over a period of many years and the reserves are now sufficient to tide over periods when utilization is high and adjustments of rates are necessary. It also makes it possible for experiments with new types of contracts to be tried without either the subscriber or the physician feeling that these experiments may jeopardize his position under the contract.

During the life of C.P.S. there have been no serious epidemics and it is certainly to be hoped that such things are a thing of the past. However, there have been wide swings in claims experience, and the present financial soundness of C.P.S. is attributable to the patience and continuous attention of the board of trustees and the administration to maintaining financial integrity. The employers who pay a large proportion of the dues income of C.P.S. must have confidence in the financial position of the organization if they are to be expected to continue to use its services. The existence of C.P.S. as a check on socialized medicine and as a laboratory for experiments in prepaid medical care coverage can only be taken seriously so long as C.P.S. has unquestioned financial integrity and handles itself in the prepayment field as an insurance company should.

Wells Fargo Bank, 464 California Street, San Francisco 4.

Member of the C.P.S. Board of Trustees, and Member of the C.P.S. Finance Committee.

The C.P.S. Administration

E. R. PAOLINI, San Francisco

The function of California Physicians' Service could be defined simply as a process designed to enroll members, receive dues, disburse payments, maintain accountability and accumulate required reserves. But when any one of these activities is examined in depth its simplicity is lost.

Enrollment, for example, must be preceded by product development; and product development must be preceded by market analysis, by risk evaluation and actuarial projections. This work in turn must be preceded by a determination of method. And so on, one detail generating another.

Meanwhile, preparations must be made to market and to service the product. The sales force must be familiarized with it, literature must be written and printed to describe it, thousands of brokers and agents must be given its details, consumer advertising must be planned, budgeted, and scheduled, internal operational procedures must be developed, instructional manuals must be prepared, flow-of-material programs prepared, personnel trained—all this before actual enrollment of members can begin.

Such activities form the climate in which management lives and from which it draws its meaning. It is understandable, then, that management should wish operational reports to be interpreted not merely as statistics but in terms of the people who, although behind the scenes, actually constitute the administrative organization, and by their individual day to day contributions to its interests, provide the impetus which keeps it moving.

The intent of this communication is to highlight what such people have done with the C.P.S. responsibilities entrusted to them, during the years after the end of the Korean War when we were returning to a nominally peace-time economy. For purposes of organization, it is presented in general subdivisions, as follows:

Present position of the corporation
Administration
Comparative recapitulation.

PRESENT POSITION

As of January 31, 1962, C.P.S. commercial membership totalled 1,053,289 persons. In addition to these, 433,072 persons were eligible for services through the Medicare and Public Assistance Medical programs administered by the corporation.

Membership has about doubled since 1953. Income, assets, disbursements, and reserves have roughly paralleled this growth curve.

However, in contrast to this pattern, administrative detail has increased at least fourfold. Checks issued, mail processed, the correspondence load and telephone traffic are reliable indices in this respect. In view of this expansion in detail and paper work, it is gratifying to report that the ratio of employees to membership has decreased. In 1953 we averaged 0.90 employee per thousand commercial members. The average as of the end of January 1962 was 0.55 employee per thousand commercial members.

Stabilization Account

The C.P.S. stabilization account is equal to four and one-tenth months' service costs. The National Association of Insurance Commissioners recommends reserves equal to not less than three months' and not more than six months' service costs for Blue Shield and Blue Cross plans. While C.P.S. is not under the supervision of the Insurance Commissioner, it has been the policy, approved by the board and legal counsel, to follow the N.A.I.C. recommendations. The corporation's present reserves are almost midway between the minimum and maximum points of the N.A.I.C. formula.

Fee Schedules and Income Provisions

In the recently published report of the Arden House Conference sponsored by the Foundation on Employee Health, Medical and Welfare, most of the criticism of Blue Shield service benefit plans, nationally, was aimed at income ceilings. The complaint of the conferees—most of whom were union and corporate officials who administered employee benefit plans—centered on the unrealistic level at which ceilings were frequently pegged. Urging that such obsolete ceilings be replaced by others compatible with the current purchasing power of the dollar, the report emphasized that "participating physicians naturally—*and rightly*—will expect that a raising of the income ceiling be accompanied by an increase in the fees specified in the maximum payment schedule."

This point was recognized by the California Medical Association as early as 1949, when the original

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Vice-President and General Manager, California Physicians' Service.

C.P.S. family income provision was raised to $4,200. In 1954, the B-schedule-$6,000 ceiling was approved, in 1959 the C-schedule-$7,200 ceiling, and in 1960 the D- and E-schedules with $7,200 and $8,500 ceilings respectively. Fees applicable to each income provision were adjusted upward commensurately.

Physician Membership

On December 1, 1961, physician membership statewide was 14,863, representing approximately 82 per cent of the membership of the California Medical Association.

The pattern of distribution of physician membership in the most populous counties is as follows:

County	Membership		Percentage
	County Society	C.P.S.	
SOUTH:			
Los Angeles	6,996	5,003	72
San Diego	951	856	90
Orange	645	527	82
Santa Barbara	247	181	73
Riverside	250	241	96
NORTH:			
San Francisco	1,711	1,350	79
Alameda-Contra Costa	1,536	1,325	86
Sacramento	451	350	78
Santa Clara	865	750	87
Sonoma	179	165	92
San Joaquin	234	195	83
Marin	225	206	92
Fresno	315	304	97
Kern	238	225	95
San Mateo	540	478	89

In the less populous counties, C.P.S. physician membership usually matches that of the local medical society.

During the period December 1, 1960 to December 1, 1961, 666 doctors became C.P.S. physician members and 29 former members were reinstated. Deaths, retirements, change of residence, and resignations totalled 332. Net gain for the year was 363.

ADMINISTRATION

Sales

During the 12-month period ended September 30, 1961, the net gain in membership was 57,390 persons.

With 80 per cent of the population eligible for group coverage through some type of in-force plan, new groups previously not covered are rare. Groups going into the market are, almost invariably, those seeking to hold the cost line by switching carriers. The squeeze on profit margins in some industries has made the purchaser particularly cost-conscious.

C.P.S. maintains district offices in 11 market concentration points throughout the state, exclusive of San Francisco and Los Angeles. These offices account for a third of the total C.P.S. sales production by maintaining close contact with local brokers and servicing in-force C.P.S. groups sold through local brokers. Broker activity in the districts has increased progressively and we have every reason to believe that it will continue to do so in years to come.

In addition to new business production, the Sales Division is responsible for the conversion of existing group business to new rates, when such rates become necessary to support service costs. During the past year 678 groups in this category were converted to higher rates. During the same period 370 groups were converted to broader coverages based upon higher fee schedules and income provisions. The retention of business at rates adequate to contain the group service costs equals in importance the production of new business. Both are essential to healthy growth.

Broker and Agent Relations

We are now receiving an average of 100 requests for group bids per month from the 1,500 brokers and agents we serve routinely throughout the state. These include independent brokers, small agencies and the large brokerage houses. Each sales or service representative must call upon at least five new brokers or agents a week, explaining our coverages and soliciting business. This intensive cultivation is resulting in an increased volume of bid requests and the enrollment of larger groups. Since 1958 the average group size has increased from 20 persons to better than 75 persons. This is most significant, for from an underwriting point of view, groups of from 50 to 200 persons produce the best claims ratios.

Medical Claims

During the 12-month period ending June 30, 1961, the total C.P.S. claims load averaged 207,238 per month, as follows:

Program	Average Claims per Month
Commercial	58,910
Medicare	6,510
Public Assistance	141,818

This represented an average monthly disbursement of more than five and a half million dollars.

The operation of the Medical Claims Department is a complex one, requiring the use of highly skilled personnel with a detailed knowledge not only of contracts and fee schedules but of the medical procedures for which C.P.S. is billed. For this reason, registered nurses are employed and trained to analyze and price physician and hospital billings. A six-month period of training, partly in the classroom and partly on-the-job, follows employment.

Billings are priced on a selective basis. Routine procedures are priced by staff workers. Pricing of more complex procedures is passed along to supervisory personnel. Cases that cannot be resolved at this level are passed along to the Coordinator of Medical Consultants, a doctor of medicine, who seeks a determination either with the Medical Consultant in the area of origin or with the physician involved, or through the review committee of the jurisdictional county medical society.

Once a claim has been approved, a copy of the billing form indicating fee, diagnosis, treatment, hospital stay, special services, etc., is placed in the member's medical history folder for future reference. Another is sent to the Machine Accounting Section, where a check is prepared and all other information on the billing form is recorded electronically for actuarial and research purposes.

Group and Individual Payment Billings

The function of the Billing Department is to issue member billings, to receive and reconcile dues payments and to make such changes in the billing as may be necessary due to contract additions and deletions or changes in benefit structures and rates. However, in this function as in most others in the C.P.S. administrative structure, changes in market patterns have created variants which do not lend themselves to standard procedures. For example, in many union-management programs covering craft workers who may be employed by a number of different employers within a given month, eligibility is based upon the number of hours worked during the month. C.P.S. must record the hours reported by each employer and forward the accumulative total to the Employee Welfare Trustees to justify the C.P.S. dues billing for each worker included. In other instances group payroll cut-off dates make it necessary to bill the group in advance of the due date. Changes in benefit structures, fee schedules or rates require the key punching of new billing cards and the issuance of newly coded identification cards reflecting the new status of the group.

Despite the increased work load caused by such variants, the number of employees engaged in this section has been reduced through application of tight procedural controls and the fullest use of automation.

Machine Accounting

C.P.S. has used electronic data processing systems since 1940. Their speed and flexibility in processing complex and varying data was, indeed, one of the factors that made prepaid medical care possible.

In September 1961, we installed the first complete IBM 1401 Electronic Data Processing System on the West Coast. The 1401 is an all-transistor, magnetic tape system with many advantages over the IBM 650 card system used before. For one, it is faster. Whereas the 650 "read" 12,000 characters a minute, the new system reads two and a half million a minute. It will print at the rate of 600 lines a minute, roughly four times the speed of the old equipment. Not the least of its advantages is the savings it affords in filing space and file personnel. One 15-inch reel of magnetic tape will store the data contained on 200,000 standard punched cards. That number of punched cards, exclusive of cases or containers, would require 125 feet of storage space.

These are things that can be observed. What cannot be seen except in end results is the flexibility of the equipment and its production capacity. For example, it is possible with the 1401 to make a new group or membership effective on any date between the first and the 28th day of a given month. The former equipment limited effective dates to the first or the 15th. Monthly listings of group memberships can be run so that cancelled memberships can be removed as they are cancelled. The 1401 will have "paid for itself" by the end of 1962 and in 1963 will begin accruing savings conservatively projected at $100,000 annually.

Underwriting

The basis of any prepayment operation is the evaluation of the specific risk and the projection of a dues rate to cover it. This is not done by a unified field formula which will fit all cases, but by constant review of group experience to isolate those characteristics of the group which cause utilization and cost variations below or above actuarial expectancy, and which can be noted for future guidance.

Constant review is necessary. The elements of all groups change from month to month. Age levels shift, sex ratios vary. The initial projection of a group rate, accordingly, must be checked against actual experience so that prompt action can be taken if the ratio of claims to dues income narrows to a dangerous degree.

Such surveillance is necessary to the protection of solvency, and the actions taken as a result of it affect all elements of C.P.S. administration. When a group's utilization costs threaten to exceed dues income, the field service staff must notify the group of the situation and alert it to the probability of an upward rate adjustment. Meanwhile new rates must be projected and, if the claims ratio continues to narrow, presented to the group on contract renewal date as the cost of continued C.P.S. coverage. Such action can lead to a group cancellation. However, this risk is infinitely preferable to any threat to solvency that might impair C.P.S. service to its membership.

Professional Relations

The purpose of the C.P.S. Professional Relations Department is to bring about a better understanding of contracts, billing procedures, and fee schedules in each physician member's office. Preventing misunderstandings with respect to C.P.S. benefits contributes to the best possible physician-patient relationships between C.P.S. members and their physicians.

Primarily the Professional Relations function is to provide a service to the medical profession, and so far as is known C.P.S. is unique in that respect among organizations offering medical benefits in California. The department's responsibilities include the orientation of physician's office personnel to C.P.S. contracts, billing procedures, fee schedules and forms; acting as a liaison agency between the physician's office and C.P.S. administration; meeting with the appropriate committees of county medical societies on problems involving C.P.S. or its members; and issuing supplies, billing forms, manuals and fee schedules to physicians' offices. Similar services are rendered to all California hospitals.

During 1961 more than 2,500 physicians' office personnel attended group orientation meetings conducted by C.P.S. Professional Relations representatives throughout the state. Others, most often new employees in physicians' offices, were given orientation on the job.

Over 1,500 cases were presented to Advisory or Insurance Review Committees during the year in line with the C.P.S. policy of placing complex or disputed cases before a professional group for adjudication. The services of such committees are also available, of course, to attending physicians, to the public and to the commercial insurance companies.

It is significant that the Professional Relations functions, pioneered almost simultaneously in California and Michigan, have now been incorporated into the operations of Blue Shield and other physician-sponsored plans across the nation.

Public Relations and Advertising

The C.P.S. Public Relations and Advertising function is one of communications—communications with all segments of the population with which the profession and the corporation are concerned. These include brokers, prospective individual members and groups, present subscribers, physicians, hospitals, government officials and the general public. In carrying out its function, this department works closely with every department within C.P.S., and with the Public Relations division of the California Medical Association.

The department's activities are logically divided into two parts—advertising to stimulate new business enrollments, and public relations to promote and maintain good will with each of the population segments with which C.P.S. is concerned.

During the recent past, efforts have been stepped up to identify C.P.S. favorably in each public area and to increase the flow of information to physicians on matters pertinent to the medical profession.

Brokers and Agents

The need to educate brokers and agents as to C.P.S. coverages and marketing policies, and to induce brokers and agents to recommend the C.P.S. product to their clients, created a marketing problem new in C.P.S. experience. The solution was undertaken aggressively with direct mailing pieces to brokers and agents developed to highlight and detail the salable features of C.P.S. coverages. The response to these efforts has been very gratifying and is reflected in the sales figures.

Since the policy of marketing through brokers and agents precluded direct person-to-person communication with the prospect, a concentrated effort to identify C.P.S. coverages in the prospect's mind as desirable and worth asking his broker about, became a necessity. This was carried forward primarily through newspaper ads, direct mail to group management and a rotating schedule of billboard presentations.

Much promotional material such as newspaper ad mats, mailing inserts and informational copy has been developed in the past year to assist brokers and agents in marketing the C.P.S. plans for individuals. These efforts have paid rewards in terms of new members enrolled in both group and individual programs.

Physicians

Informational services to the profession have been increased in both scope and frequency over the past two years. Items written for county society bulletins have been widely printed in those publications. Information of urgency and special pertinence to professional interests has been communicated by special letter. Less urgent but still pertinent information has been distributed by way of *Physicians' News Letter.*

Subscribers

Over the past five years special attention has been given to the C.P.S. obligation to keep its existing membership informed on matters of mutual concern. The C.P.S. group *Newsletter* is sent to all C.P.S. groups at bi-monthly intervals for this purpose. The format is especially designed for bulletin board use.

Indispensable for reference purposes are the brochures distributed to all subscribers, describing in detail the nature and extent of their coverage. By standardizing copy and production techniques, substantial savings have been effected in the development and distribution of this material.

General Public

News releases of informational and opinion-forming copy have been increased to gain widespread respect and recognition of C.P.S. as an effective and desirable prepayment agency made possible by the medical profession.

California Physician's Insurance Corporation

As of the end of September 1961, a total of 90,834 persons were enrolled in California Physician's Insurance Corporation programs. This wholly owned C.P.S. subsidiary, incorporated to write indemnity coverage such as major medical, had a gross premium income, before reinsurance, for the nine-month period ended September 30 of $961,000. Approximately three out of five requests for bids received by our Sales Department for groups of 25 or more, include a request for Major Medical Coverage, indicating the growth of a market which C.P.I.C. is well fitted to serve.

Internal Staff Functions

In any corporate operation there are certain internal functions whose purpose is to serve the needs or improve the efficiency of other divisions of the enterprise. Commonly these functions are taken for granted and approved, like the minutes of the last meeting, "without comment." Yet they are essential to the effective operation of a business and should be included in any detailed report of corporate activity.

In general categories the C.P.S. service functions include the following: Personnel, Purchasing, Internal Audit, Statistical, Research, Systems and Standards, Mail.

Personnel

In any business operation, dealing with personnel is basic. No business can be operated successfully without competent and interested employees. A measure of the importance of this function is the fact that wages and salaries normally constitute 60 to 70 per cent of total administrative costs.

It has been the objective of C.P.S. Administration to set up a personnel function that would effectively serve the needs of the corporation in the areas of recruitment, wage and salary administration, and personnel policy supervision.

Because of the nature of its operation C.P.S. requires the services of considerable numbers of professionally trained personnel for work demanding the exercise of an unusual amount of concentration and good judgment. To offset the costs we must pay for such skills we must obtain the maximum production from all personnel. This requires the application of high standards in evaluating job applicants and the exercise of firm but equitable personnel policies following employment, to reduce turnover.

Great care is taken in evaluating the need for new employees. Request for additions to a departmental staff can be approved only after the need for additional help has been evaluated by the Work Measurement division according to established production norms. Replacements are recruited routinely.

Purchasing

As the C.P.S. operation grew in scope and complexity, it soon became clear that rigid controls would be needed to avoid smothering in the great volume of "paper work" that was a part of its day-to-day activities. These controls begin in the Purchasing Department.

Insofar as possible, all purchases of stationery are consolidated in order to get the biggest possible discounts for volume. The Purchasing Department also standardizes sizes and formats and maintains utilization records so that little-used or obsolete forms can be eliminated.

All withdrawals from stockroom inventories are charged against the budgets of the requisitioning departments. Accountability is maintained at all times. All outside purchases are subject to bids and when feasible are made with an agreement that the vendor store the goods until they are needed by C.P.S., which reduces the amount of space we need.

Internal Audit

All C.P.S. administrative sections are subject to internal audit. Internal audits of methods, procedures, records and practices are designed to spotlight overlapping and inconsistencies between functions, to eliminate waste motion and suggest areas where administration might be improved. The internal (or management) auditors have access to all departments and report directly to the vice president-general manager.

Statistical-Actuarial

No medical care prepayment agency could turn a wheel without statistical-actuarial services. We are particularly fortunate to have a staff skilled and long experienced not only in the statistics of morbidity but in the projection of general conclusions from specific experience patterns. The Statistical and Actuarial function is closely associated with that of the Underwriting section. The relationship makes for proper rating and, in the last analysis, the maintenance of corporate solvency.

In addition to this function, the section systematically compiles data, issues routine reports of contract experience and advises management of trends and other developments of significance to the overall operation.

PART I.—*Financial Position Comparison*

	Sept. 30, 1953	Sept. 30, 1961	Difference
1. Cash on hand and in banks	$ 1,826,416	$ 1,310,571	*$ 515,845*
2. Accounts receivable	529,771	2,855,680	2,325,909
3. Investments	7,517,563	18,899,062	11,381,499
4. Other assets	214,819	970,218	755,399
5. Total assets	$10,088,569	$24,035,531	$13,946,962
6. Liabilities	2,801,514	8,281,928	5,480,414
7. Invested reserves	7,072,236	14,783,385	7,711,149
8. Other reserves	214,819	970,218	755,399
9. Total liabilities and reserves	$10,088,569	$24,035,531	$13,946,962

Italics for decrease.

PART II.—*Operations Comparisons—12 Months Ended September 30*

	1954	1961	Difference
1. Operating income:			
Commercial program	$23,640,922	$46,752,859	$23,111,937
Government programs	1,711,166	21,460,381	19,749,215
Combined	$25,352,088	$68,213,240	$42,861,152
2. Other income	188,244	745,373	557,129
3. All income	$25,540,332	$68,958,613	$43,418,281
4. Claim costs:			
Commercial program	18,537,288	42,164,661	23,627,373
Government programs	1,503,697	20,385,310	18,881,613
Combined	$20,040,985	$62,549,971	$42,508,986
*Administrative operating and sales expense (net):			
Commercial program	3,151,455	5,283,562	2,132,107
Government programs	207,470	1,075,071	867,601
Combined	$ 3,358,925	$ 6,358,633	$ 2,999,708
Expense ratios to operating income:			
Commercial program	13.3%	11.3%	—2.0%
Government programs	12.1%	5.0%	—7.1%
Combined	13.2%	9.3%	—3.9%

*Net of abatements and including commissions.

PART III.—*Miscellaneous*

	Sept. 30, 1954	Sept. 30, 1961	Difference
1. Personal complements:			
Commercial program	555	574	19
Government programs	30	97	67
Combined	585	671	86
Ratio commercial employees per thousand commercial members	0.90	0.56	—

	Calendar Year 1954	12 Months Ended June 30, 1961	Difference
2. Checks issued—Per year—All programs	284,089	1,014,619	730,530
3. Average number claims per month—Commercial only	18,700	58,910	40,210
4. Monthly claim dollar average—Commercial only	$1,577,103	$3,744,000	$2,166,897
5. Monthly cash collection average—Commercial only	$2,005,000	$3,926,817	$1,921,817
6. Commissions paid to brokers—Monthly average	$ 2,700	$ 40,000	$ 37,300
7. Monthly Medicare claim average	....	6,510	6,510
8. Monthly Medicare claim dollar average	....	$ 481,141	$ 481,141
9. Monthly PAMC* claim average	....	141,818	141,818
10. Monthly PAMC claim dollar average	....	$1,289,680	$1,289,680
11. Monthly average cash collections—All programs	$2,142,000	$5,842,637	$3,700,637

*PAMC = Public Assistance Medical Care.

Research

The C.P.S. Research division was established in 1960 in response to the obvious need for special studies in specific areas of concern. This need was also recognized by Resolution 14 adopted by the House of Delegates of the C.M.A. in February of that year.

The Research division conducts studies in specific areas of inquiry, evaluates the costs and market acceptability of proposed new programs, charts trends in hospital costs, general economics and politics. It has access to all statistical and actuarial data and has the electronic equipment to process it. It maintains an extensive reference library.

Systems and Standards

The C.P.S. Systems and Standards Department is responsible for the development, installation and maintenance of a balanced system of statewide operations which will promote optimum efficiency under sound cost controls.

By the use of production data for the statistical evaluation of work force, work flow, on and off-job payroll costs (vacations, sick leave, for example), production controls, personnel turnover and wage classifications, the department is able to establish job standards by which the efficiency of a given function can be evaluated.

By applying job standards to measure work performed, the department has effected a substantial reduction in the number of personnel employed, while increasing production, with consequent savings in administrative costs.

Once a personnel complement has been established for a given departmental function, no additional workers may be employed unless clearly justified by the production standards applicable to that function. In this way departmental staffs are held to minimum levels consistent with the production to be achieved.

Mail Section

As with the United States Post Office Department, the service of the mail section in most business operations is taken for granted by those who use it regularly. Yet if the mail function, either public and private, were to falter, the whole economy of the nation and the individual business operations that support it, would suffer.

During the past year the C.P.S. Mail section in the San Francisco office alone handled 3,386,000 pieces of mail. This is an average of over 14,000 pieces per working day. To handle such a volume at lowest cost, the section utilizes mechanized equipment. The Bell and Howell Automatic Inserter and Postage Meter, for example, inserts correspondence, seals the envelope, weighs the piece, imprints the proper postage and stacks the run. This machine processed 1,022,000 pieces of mail during the year, averaging more than 4,200 per working day.

The purposes of reporting these figures here are twofold—one, to acknowledge a much neglected though vital function; and, two, to highlight the magnitude of mail traffic that is generated in the routine operation of the corporation.

Comparative Recapitulation

No member of the C.P.S. administrative organization could view the comparative recapitulation shown on the preceding page without some degree of personal satisfaction. But those who have been members of the staff over the period of comparison know how limited would be the right of any one person to take credit for the total accomplishment.

450 Mission Street, San Francisco 5.

Transference to a Medical Center

A Cultural Dimension in Healing

HARRY A. WILMER, *M.D., Ph.D.,* Palo Alto

• The phenomenon of transference to a medical center is similar to the transference given to an individual physician, the feelings being invested in The Center rather than in a person. The reputation and the image of The Center can give therapeutic sustenance.

There are common features to each healing organization from primitive times to the journeys to the Oracles at the shrine of Zeus at Dodona and Apollo at Delphi, to Mecca and St. Bartholomew's Hospital, to Lourdes and Gheel, and to the present-day medical center. A phenomenon which we have identified as Transference to a Center has previously been known to physicians, theologians, historians, sociologists and anthropologists, by different names. In a social sense, transference to a medical center is akin to an Edifice complex.

FROM ANCIENT TIMES people have journeyed to centers renowned for healing—to shrines, temples, churches, mountains, springs, villages; to Mecca and to Rome. In modern times, they seek universities, clinics, hospitals and institutions dedicated to healing. As in ancient times, the sick still make their hegira with hope, expectations, even excitement, anticipating relief, cure or miraculous recovery.

While the healing powers of ancient centers were attributed to divine intervention, modern medical centers attribute their therapeutic effectiveness to scientific treatment. The magic and mystical powers which brought relief in olden times still bring relief today and it is possible to identify a common factor through which these powers are mediated: transference to a center.

Reider[9] has written on transference to an institution, from the *Mount Zion* (*sic*) Psychiatric Clinic in San Francisco. He points out that when an institution attains a reputation it is a sign that an idealization and condensation of magical powers of benevolent greatness of parental figures have been posited in the institution.

I have found no paper in the literature dealing with this phenomenon in any nonpsychiatric center. This paper, therefore, concerns itself with *The Center* in ancient and modern times. It deals with the phenomenon of transference to the center and not to the individual physician, and the effect of this force upon the institution and its members, as well as upon the patients who make pilgrimage to it. One cannot understand staff-patient relationships in any institution without an appreciation of this important psychologic, social and, particularly, cultural dimension of its healing powers. Physicians, just as patients, are enmeshed in transference feelings toward the institution, while the physician must cope with the additional countertransference feelings toward both patient and institution.

THE TRANSFERENCE PHENOMENON

Causa latet vis est notissima (while the cause is hidden the force is well known). Transference is a term generally used to designate the attitudes and feelings a patient expresses in behavior and words to his physician. The personal influence of the physician, his very being as treatment-giver, his words and behavior as suggestion, the rituals of his office, the ceremonials of his practice are rooted in potentially powerful transference feelings.

Transference is explained as the transfer of repressed unconscious feelings which were originally experienced toward omnipotent parental figures. The feelings are projections of forgotten infantile memory traced to those figures which now stand for mother, father or their surrogate. The institution can stand as symbolic parental surrogate. In other words, the then-and-there give-and-take between parent and child distorts the here-and-now give-and-take between adult patient and physician (or institution). The patient invests the current representative of parent with omnipotent powers and omniscient vision that enhance therapeutic methods. In the case of negative transference feelings, the physician or the center is endowed by the patient with malevolent intent and power.

For cultural reasons, the most intense repression of feelings falls upon the sexual instincts. As a consequence, the Oedipus complex plays a crucial role in transference phenomena. But the thesis of this paper is that there is a cultural phenomenon akin

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to this which might be described as an Edifice complex.

The importance of "buildings" in the American culture is well known. The relative ease with which funds can be procured for edifices contrasts sharply with the difficulty of getting sufficient money for adequate staff. This has had many unfortunate consequences, putting money into mortar and bricks at the expense of men. But this social malady is not limited to the American scene.*

TRANSFERENCE TO INSTITUTIONS IN THE TWELFTH CENTURY

That we may better understand the cultural evolution and heritage of our modern centers, perhaps it is wise to look at the historical tradition of centers to which the sick have made pilgrimage, to look at ancient precursors of modern institutions of healing. To see contrasts and similarities, we shall briefly examine some institutions in the Twelfth Century. The medieval world was then in a ferment of activity and building and the authority of the church pervaded the entire fabric of the times. People lived in fear, yet did heroic things. Diseases were considered as the work of the devil, and pilgrims sought healing, forgiveness of sins, expiation and pardoning of wrongs. But long before medieval times, pilgrims journeyed to be cleansed in the Ganges and Buddhists traveled to the birthplace of their founder, just as people of antiquity had gone to the Mountain of the Gods and the Oracles of Greece. Throughout history, The Center has stood as the symbolic Mount Olympus, its spokesmen as symbolic Oracles, its very name invested with "magic" like *The Magic Mountain.*[7]

LONDON, 1123 A.D.

Eight hundred years ago in London, the English tongue was spoken by the common man but French was the language of the ruling class. The First Crusade was ended, the Second not yet preached. St. Paul's Cathedral, which men said would never be finished, towered above the other buildings and the hundred churches of medieval London.

A pilgrim by name of Rahere journeyed from London to Rome. Then about 35, son of a man-at-arms who crossed the English Channel with William the Conqueror, Rahere fell ill on the Isle of Aesculapius in the Tiber, presumably of malaria. There, in a semi-comatose condition, he had a vision: St. Bartholomew appeared to him and directed him to build a hospital for the poor in London. After he went to Rome (apparently for forgiveness) Rahere returned to London vowing to carry out his mission. He convinced Richard, Bishop of London, of the need for a hospital, and obtained from King Henry I a royal charter. With his own hands and the help of many poor people he built a church and hospital on a great plain, Smithfield, which was north of the high wall surrounding the city.

The Church of St. Bartholomew the Great, a major portion of which still stands today, and a hospital adjoining it, opened their doors in 1123 and the sick began their pilgrimages within a short time thereafter. This is the oldest extant medical center in the English-speaking world. "St. Bart's" is the oldest hospital in the English-speaking world in which clinical records are still available. A manuscript entitled *Liber fundacionis ecclesie Sancti Bartholomei Londoniarum pertinentis prioratui eiustem in Weste Smythfelde* (the Book of the Foundation of St. Bartholomew's Church in London, belonging to the priory of the same in West Smithfield) is preserved in the British Museum.†[8]

The original hospital had four wards, probably each with twelve rather large beds. In time of war or pestilence each bed could accommodate as many as eight persons. There was one attendant sister of mercy for each ward. In *The Book of the Foundation,* little is said of therapy but there are records of 57 cases recorded clearly enough to make possible presumptive diagnoses today. Twenty-two of them appear to have been neurologic or psychiatric in nature.[11] Hence about one-third of the earliest patients would have been referred to the neurologic or psychiatric consultant today, but the cures reported were vastly quicker than could be expected at the modern Center. That the recorded cases are a highly select set of "miracles" cannot be doubted, for while there are certainly one, and probably two, cures of hemiplegia reported, there is no note to indicate that the resources of the hospital he helped to found were ever used for Richard, Bishop of London, although he had become hemiplegic in the latter half of 1123, the year of the hospital's founding, and remained so until his death some five years later. The cures reported are manifestly related to the transference to the institution which drew the sick on their pilgrimages of hope. The emotional impact of their experience, their prayers, their worship in the church, and their healing experiences are vividly described.

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*In 1954 at Gheel, Belgium, the site of the oldest colony for the mentally ill in the world, the Ministry of Health built a large modern occupational therapy building. Upon completion, there were no funds for an occupational therapist; consequently the building is now used as a tuberculosis ward and is three-fourths empty.[4] So strong is the popular image of "the shrine" that the even greater crisis at Gheel is completely overlooked in popular magazine articles, one as late as the date of the final draft of this manuscript.[1,4]

†The manuscript contains a Latin version of forty leaves and a Middle English version of thirty-eight leaves. They were both written on parchment about 1400 A.D. The original Latin manuscript was written between 1174 and 1189 A.D.[8]

MECCA, GHEEL AND LOURDES

In Twelfth Century France, Cretien de Troyes was writing the Story of Perceval, the search for the Holy Grail that inspired countless pilgrimages. And in Arabia in that century, long before Mahomet, Mecca was a place of pilgrimage where religious observances were associated with annual fairs. Beginning with the *omra,* or vow of pilgrimage to Mecca, the faithful journeyed to the *haram,* or sanctuary. Each pilgrim, dressed only in two cloths wound about his person, entered the great mosque expressing his devotion in shouts, performing the *Tawaf and Sa'ym.* Then he had his head shaved, resumed his common dress and departed. These rituals in one form or another continue through modern times, performed in less obvious ways.

By the Twelfth Century, the mentally ill had been making their way to Gheel in Belgium for five hundred years. Gheel, like Mecca and St. Bartholomew's, is still in existence. To Gheel went the "insane," the mentally retarded and the emotionally ill. The first and most enduring form of family community psychiatry took place there. In the Medieval records, it is interesting to note that psychiatric classification was in terms of "possessed" and "the innocent," which were moral and religious terms. Yet carved over the annex of the Church of St. Dymphna at Gheel is the word *Ziechenkammer,* which means sickroom. This was probably one of the first instances since classical times of the use of the word "sick" to refer to mental abnormalities.[4] The first written records of Gheel appear in 1250, only about a century after *The Book of the Foundation of St. Bartholomew's Church.* These records show the tradition of family care had already taken root in this Catholic Flemish town.

Before 1952, Gheel was under the control of the Church, the Imperial or local government, and lastly, the Department of Justice. It is a sad commentary on our so-called modern scientific era of institutions that after twelve hundred years of continuous existence and just nine years after the official jurisdiction of the colony was placed in the hands of physicians in the Department of Health, Gheel is slowly going out of existence, for it is considered "dangerous," and new admissions have virtually ceased.[4] The "modern" psychiatric hospital has played its role in the probable end of this great center.

Now we may cite the most widely known modern pilgrimages: Those to Lourdes in the Hautes Pyrénées of southwestern France. In many ways, its rituals are reminiscent of those of primitive societies. Attention was drawn to it by reports of the vision of Bernadette Soubirous in 1859. A journey to Lourdes, with its psychologic and social significance, has been recently described by Frank.[5] The magnitude of its drawing power is revealed in the dedication ceremonies in 1876 which took place in the presence of 30 bishops, 3,000 lesser priests and 100,000 pilgrims. It is not uncommon in these times for 40,000 pilgrims to be present on any one day.

THE MODERN MEDICAL CENTER

Moving our focus from the religio-philosophic culture of early times to the scientific materialistic world of today, we see our centers draw their patients in similar pilgrimages from far away. Although they come as individuals, they soon find themselves banded together in groups of pilgrims who reinforce one another's hopes, beliefs and expectancies. They tell one another tales of marvelous cures, of the greatness of the doctors and of their own sufferings and previous hegiras. Thus begins the healing of their social protoplasm. Together they go through procedures ritualistic in nature, through ceremonies in many ways not so unlike those of the ancient healing Temple of Aesculapius. Many leave cured, most depart feeling better for having come.

The Center* is a great institution, renowned for surgical and medical treatment and research. It occupies many large and impressive buildings; some chambers smell of disinfectant rather than incense, and the pilgrims move in orderly procession through its departments. While each patient is "assigned" to one physician, he is seen by many. Patients read about The Center in the daily press, in magazines and in books. It is part of the modern culture.

While patients benefit from scientific study, they also experience institutional rites that make for a kinship of the sick and a communion of sufferers waiting patiently on chairs and benches and examining tables. With antecubital areas bandaged, stomachs lavaged, ears and fingers pricked for blood, barium poured into orifices, shot with x-rays and drugs, inspected with eyes and lights inside and out, talked about, become the temporary focus of the entire operation of The Center, each patient has gratified dependent and narcissistic needs which are the hallmark of the sick. A mounting tension accompanies these rituals which is psychologically as well as biologically significant. When all reports are assembled for the ultimate pronouncement, it is still the individual physician who now performs a final act of symbolic personal acceptance as an agent of the institution. In the final analysis, the physician speaks for The Center. His own personality is endowed with the "crowning power" of The Center.†

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*The Center does not represent any one center in America but is a montage of several famous universities and clinics.

INSTITUTIONS AND THEIR MEMBERS

The institution exists as an enduring social organization transcending the individuals who work as its members. The men and women who work in famous institutions are usually seen by patients as dedicated workers who by virtue (literally) of working under the aegis of The Center are invested with its healing powers. These powers are transmitted culturally from the Founding Father(s) whose fame and accomplishments bring both physicians and patients to The Center.

The more famous the center, the more respected and revered its popular image, the greater tends to be the anonymity of the individual physician, as his identity is merged within the more potent enveloping social organization. This staff anonymity, the cohesive group functioning of staff, leads people to seek the resultant consensus of opinion, particularly when local physicians differ sharply, when obscure disorders go undiagnosed and patients seek one specialist after another, often at sea as to whom they should go or upon whom they can rely. Often with incurable diseases they seek The Center where they know the physicians will have seen "countless" patients and have at their fingertips the very latest drugs, treatments and surgical procedures. The patients who seek out The Center are those who will not accept their fate until, as one patient put it, "I heard it from the horse's mouth."‡

Positive transference permits physicians with widely varying levels of training, competence and experience to speak with the authority ordinarily invested only in the famous doctors themselves. In daily brushing shoulders with these famous men, their colleagues become coated with some of the dust of greatness. The patients have trust and confidence in *all* the physicians. In the words of one patient, "These young doctors wouldn't be here unless The Center had confidence in them." What was good enough for The Center was good enough for him.

The cooperative nature of the best institutionalized practice provides checks and balances, counterchecks and counterbalances, stimulates each doctor to miss nothing organic lest a colleague discover something he has overlooked. He would then feel unworthy in the eyes of his colleagues, but in another sense, he would feel he was "letting the institution down." Unfortunately, cohesive medical institutionalized practice does not foster the same zeal in the pursuit of social and psychologic illnesses.

The prestige and fame of the practicing members of the institution are to some extent an inheritance from the charismatic powers which the founders possessed, transmitted through social systems and culturally bequeathed.

THE SYMBOL

The very name of the institution is a cherished and sacred title, a powerful symbol to which much transference feeling is attached. The name not only brings heightened hopes to the patients but brings the physician himself to a greater expectancy of his own professional competence. And in this frame of mind, with reciprocal support from The Center, he commonly performs at a greater proficiency of therapeutic effectiveness than he would without "the symbol." Moreover, if the physician leaves The Center, he carries its symbol with him, almost as an amulet or charm; and in some instances as a *vade mecum* to fend off the devil on his own personal pilgrimage during his professional life. The Center's symbols are ritualized in its diplomas and certificates and its verbal power that patients pass by word of mouth: "He was trained at The Center." The physician then striving to be worthy of the Symbol may feel its power at a distance from the establishment.

THE MEDICAL CENTER AND ITS PATIENTS

Here are some quotations of patients speaking to a physician at The Center, when asked why they came: "This is the court of last resort." "What they tell you here is the last word." "This is the end of the line." "I came here because I want to see the best doctors in the world." "My doctor recommended that I come here. I have never heard anything but glowing reports about it." And, revealing the unconscious feelings about coming to a modern "shrine," a patient made this significant slip of the tongue: "I feel this is the blest (*sic*) place in the world."

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†Like *The Rites of Passage*[10] which describe the ceremonials and rites at the significant status changes in life, they resemble the Rites of Separation, the Rites of Transition and the Rites of Incorporation, each with withdrawal, isolation and return. Whether at Mecca or Medical Center, upon arrival the pilgrims perform Rites of Separation, dropping their former status and relationship with community, family, priest or physician. In the *haram* or the Registration Procedure with Ceremonial of Indoctrination or in the Priory of St. Bartholomew, preparatory steps are taken which initiate the believer and give him new status. It may be a bath, a cloth or a number. Within the inner sanctuary, the church of St. Bart's, the mosque or the consultation room, Rites of Transition are performed. Here the seeker submits totally to the temporary authority of The Center, figuratively and literally. By his willing, enthusiastic submission to its controls, ceremonials and rituals, he reenacts his new allegiance to the reigning powers. Finally, in his new cloths, with his votive plaques and his final discharge procedures, he performs Rites of Incorporation symbolizing his new status. With a sense of well-being and elevation of spirits he leaves the protecting institution, carrying with him memories and mementos to keep afresh the healing spirits, the hallowed feeling once experienced. He is now cleansed or cured, and an alumnus.

‡All quotations from patients in this paper are verbatim except that the name of the particular institution is replaced by "The Center." All of the patients quoted in this paper were seen personally by the author.

For physicians hearing such statements day after day and year after year, there is a natural tendency to forget that the patient is voicing primarily great faith in a great institution and only secondarily in the doctor, and even then in the doctor mainly as a representative of The Center.

The following case illustrates this observation: A patient journeyed hundreds of miles for his annual routine physical examination. After prolonged interviews, careful examinations, numerous laboratory tests and x-ray pictures, he was told that his physical condition was excellent; whereupon he replied with great feeling: "It's good to have a clean bill of health from such an outstanding institution." When questioned he added, "Since I was a child I've heard of The Center. Once they saved my mother's life, and once they told my father almost to the day when he would die. Next to God, there is The Center" (clearly an adoration transference).

It came as a sobering shock to a physician at The Center who for years had cared for a patient to receive a letter of gratitude stating "I always have confidence in what The Center says." This certainly documents anonymity.

THE HEALING POWERS OF THE CENTER

The institution's healing powers occasionally operate even at a distance from its locale when a symbolic contact is made with The Center. This is illustrated in the case of a 20-year-old man with a paranoid schizophrenic reaction. For a year, under the delusion that his body emitted an offensive odor, he shunned all people and believed himself to be treated with derision and ridicule. The hallucinatory oppressive odor tormented him at all times. Then one day he decided to seek help at The Center and wrote a letter asking for an appointment. The moment his letter dropped into the mailbox his odor disappeared. It did not reappear when he arrived at The Center after a pilgrimage of about a thousand miles. While he remained obviously psychotic and delusional, he had been relieved of his most disturbing symptom and could be with people and talk to them. Even a year later his odor had not returned, as he wrote in a follow-up letter, "even though" he was now under psychiatric treatment. This clear example of transference to a medical center might be received by the scientist with the Scottish verdict: *Not Proven* —which is said to mean "not guilty, but don't do it again."

In contrast to the above "miraculous" improvement explained in concepts free of the aura of miracle, there is the case of a woman 21 years old who suffered from intermittent headaches of neurotic origin. The headaches had bothered her for several years. They became constant only when she announced to her family that she had written for an appointment at The Center. The psychologic reasons for this were clearly evident in psychiatric interviews, and she was referred home for psychotherapy.

Often the healing powers of The Center rest with the authority of its decisions and conclusions. When patients seek out a center as a "supreme court," the consequences are always psychologically interesting. The following case illustrates this simply and seems to me as irrefutable as a Supreme Court decision itself:

A 58-year-old laborer, who had been told by a local specialist that he had had a heart attack and that it might "kill" him if he returned to work, was put in hospital locally for two months. His own physician, an aged general practitioner, doubted the diagnosis and treatment of the home town specialist and referred the patient to The Center. Upon the patient's arrival and before completion of his examinations, his principal symptom, exertional dyspnea, disappeared into thin air and did not return. Diagnostic studies, including psychiatric examination, revealed his trouble to be a functional disorder and his present invalidism iatrogenic. He was advised to return home and resume his work at once, which he did with new faith in himself, renewed belief in his general practitioner and reverent praise for The Center, which had changed his life.*

Some patients see The Center as a great efficient machine, and some patients admire efficient machines. Others seek personal relationships and attempt by devious means to seduce (in a psychologic sense) their physicians into more personal relationships to guard against their abiding fear of being engulfed and swallowed up by great efficient machines, which they dread. In such cases it is almost always possible, in the light of the patients' history and information relative to their childhood, clearly to understand their behavior in terms of transference phenomena.

The great center is potentially an ideal environment for a psychiatrist, for there he can work with his medical colleagues. The Center is a particularly fertile ground for the social psychiatrist, in that his training has prepared him to see the cultural and social dimensions of the healing situation quite divested of the anthropomorphic elements. Naturally such a point of view poses real and imagined threats to physicians and surgeons, which explains the slow integration of psychiatry into The Center. Scientific organically-minded physicians tend to withdraw from the psychiatric approach, no less than psychiatrists tend to withdraw from the organic approach. And both have good and valid reasons for their anxiety, which, however, is not cause for alienation but is the precise reason for integration of the psychiatrist into The Center.

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*I do not wish to give the impression that power of the transference alone accounts for the healing force of the institution. In scientific modern centers, this power is secondary to the hard, conscientious and dedicated labor which should be the physician's life. Yet these factors enhance one another. To the point is the story of the man who transformed his weed-ridden yard into a magnificent garden. A clergyman who walked by the garden admired it, saying, "What wonders God hath wrought." To this the man with the hoe replied, "You should have seen it when the Almighty was doing it alone."

INSTITUTIONAL IMMUNITY

The failures that occur in institutions of healing are usually not chalked up against The Center or its members, since the transference phenomenon has endowed both with a high degree of immunity. The institution itself, in that it is a social organization, tends to exempt the physicians from two principal sources of criticism of the medical profession at large—namely, the profession's often expressed attitude toward irregular, unqualified practitioners and faith healers[†]; and the profession's attitude—or so the critics seem to believe[‡] toward public health services.[3] There is the definite suspicion in a considerable part of the public mind, that these attitudes are actuated by fear of losing remunerative practice.

The Center, being a self-contained training, teaching, research as well as treatment center, is above the ordinary run of competition for patients, and by virtue of organization its members need not individually struggle to maintain successful practices. Patients literally come to them in droves. And if one physician dies, another physician takes his office and the patients continue to come. The Center is itself a public health institution and fear of public health competition would only be a sign of beginning crumbling of The Center's immunity and its strength. The Center places its own stamp of approval upon its staff, which qualifies the members of the staff in their patients' eyes. The good that The Center performs for society is part of its history, its myth, and the published scientific contributions of its members.

By virtue of its humanitarian and humanistic attributes, whether real or illusory, The Center frees its individual members from the criticism of commercialism, uncoordinated overspecialized practice and individual greed or inhumaneness. While The Center knows better, the public image is that it can do no wrong. Since The Center epitomizes the American ideal of success, of size and mass, of power and profit, of fair play and equality of treatment, it is a self-immunizing organization so long as it grows and flourishes.

NEGATIVE TRANSFERENCE TO THE CENTER

Some patients arrive at The Center with smoldering angry hostile feelings, with rage about to erupt, with social anxiety and destructive impulses. They may never have seen The Center and have no basis in reality for transferring such hostile feelings to it. But they do, because the transference feelings are unconscious in origin and not subject to purely rational thought. These feelings from infancy are now directed at the unconscious mental representation of the institution; its very prestige, fame, authority and power are the target of hatred and suspicion. These feelings may be expressed overtly or—much more commonly—covertly. Nonetheless, in one way or another these patients tend to alienate the staff members of The Center, who are used to a different reception from their patients. The members of the staff respond with countertransference feelings and tend to retreat into the institutional immunity. Yet the attacks may be no more personal than the adoration, however less acceptable.

While we are not concerned here with negative transference to the physician but only to The Center, it is important to remember that both occur. In instances where it is directed at The Center, unless the staff members recognize this, their behavior reinforces the patient's negative expectations, the institution becomes antitherapeutic. The patient then has evidence for his hostile feelings and "justification" for his projected hatred. While the basis for negative feelings of this sort is marginal in reality, its true origin lies in the patient's *unconscious* and the institution thus has become the hated parent or parent surrogate.

An example of a patient with negative transference feelings is a 45-year-old mildly paranoid woman who on her visit to The Center was openly hostile. She had suffered from neck pains for two years. It was diagnosed in The Center as "post-traumatic syndrome" and later as "tension somatization." Questioning elicited a history of chronic anger. Her husband, who accompanied her, was also hostile and seemed anxious for her *not* to improve, this because of pending litigation. They came to The Center really wanting, not treatment, but money and what that symbolized to them. To both of them, going to The Center was just like going to a bank where they had no account, and they were hungry and deprived.

When she was asked about her feelings regarding The Center she replied, "I don't have anything against any of the doctors," (pause) "I am not very close to any of the doctors. And I am not very close to any of the doctors at home." This seemed an understatement. When her reaction to The Center was explored, she revealed the following information: When the patient was 5, her mother had died during surgical treatment for a ruptured gangrenous appendix. Even in middle age the patient felt great bitterness and resentment toward "doctors" which she could barely verbalize. Doctors themselves had become institutionalized in her mind, and now she "had them all," so to speak, at The Center. She blamed the doctors for her mother's death, but this was only a thin disguise for her hatred of her father, a happy-go-lucky man who had remarried within a year of his wife's death. The patient really blamed her father for the neglect and delayed care of her mother. More than that, she even blamed herself.

[†] Bernard Shaw wrote that "the unregistered practitioners are at a heavy premium because they have mastered the modern technique of which registration guarantees ignorance."

[‡] It is of interest, contrapuntally, that Sir William Osler, the *idol* of clinicians, and the *"angel"* of Johns Hopkins University, was known also as the *champion* and advocate of Public Health in America.

The patient and her stepmother naturally had a stormy coexistence. It reached large proportions when the stepmother took steps to send her to an orphanage at about seven years of age. This was prevented when the father finally intervened. The patient blamed her father for the very existence of her stepmother; not only did she fantasy that her father killed her loving mother, but that he had deliberately replaced her with a hateful rejecting mother-substitute, rather than let the patient herself take the mother's place in the father's affection.

All this went underground, and on the surface was the memory of the loving mother dying while under doctors' care. The patient felt guilty for believing her mother deserted her in death. She therefore deserved to lead a deprived life and one of suffering. In her own eyes she was worthless. It was obvious that she did not wish to get well. In her husband's eyes, her suffering had a monetary value. Nonetheless she told her story clearly and with feeling in her psychiatric interview and said she would think about psychotherapy "after the lawsuit was settled."

For The Center's physician to evaluate this neurotic woman and her need to prove the staff impotent and rejecting, to frustrate their care and reject their diagnosis, because "they really knew," he must delve into the patient's personal history. She was intent on thwarting The Center, and perhaps now, her vengeance complete, she must suffer more to expiate her guilt. To brush her off as "having nothing wrong" would show about the same magnitude of understatement as her comment about doctors.

AMBIVALENT TRANSFERENCE TO THE CENTER

One brief example of ambivalent transference illustrates a clinical situation in which the physician, depending upon his own reaction to such a patient, can swing the transference one way or the other if it is not too strongly fixed in the ambivalent position. At the end of an hour's interview and when the patient was leaving the office, she stood by the door, looking very grateful, and with what seemed like a genuine desire to remember the kindly physician, took paper and pencil from her handbag and said, "By the way, what is your name?" This friendly hostility capitalizes on the basic anonymity of The Center's physicians. It is an insult for which there is no reason to take offense.

INSTITUTIONAL DECAY

The Center may some day suffer the fate of some other centers. Institutional culture can become provincial and authoritarian. The "mechanics" of The Center always threaten the "humanics" of it. When the institution becomes rigid and autocratic, its practicing members may become unfeeling, even insensitive to the great power of their positive transference. They sell it for Science and for Efficiency; and some day the pilgrims to The Center find themselves literally cogs in a machine, seeing the doctors as institutionalized automatons. Then the whole thing becomes not a great efficient machine but a monster. Conflicts within the staff spread and social disorganization begins. Mostly its routines and rituals and rites become meaningless incantations repeated by rote and without feeling, for it was feeling and emotion, the *esprit* of The Center that made it great and kept it great. Its future hangs in balance. It has a new birth, as perhaps a great institution that has builded upon the past a more enduring form for having weathered an investitive storm; or it can crumble, lose its human touch, keep its loyal patients and its loyal staff, gradually dwindle in social and scientific importance, losing its magnetic power and eventually its pilgrims. Finally people sit around getting older and talking about the old times. Instead of feeling pride of affiliation with The Center, they feel the hurt of being afflicted with The Center. It is in *affiliation—to take a son*—that the whole phenomenon of transference to a center takes on new meaning and new members.

The physician at The Center may become in the eyes of the patients the symbolic carrier of the staff of Aesculapius, the God of Healing, whose staff has one snake twisting around it. Or he may become in their eyes the symbolic carrier of the staff of Mercury, God of Taking Chances, Taking Profit, and Carrying Tidings Elsewhere. The staff of Mercury, the Caduceus, has two snakes twining around it. Some medical centers and institutions themselves are not clear about the distinction, either literally or figuratively. Most are not only clear but dedicated, and therein lies the strength to alter decay into growth, and hopes into new realities.

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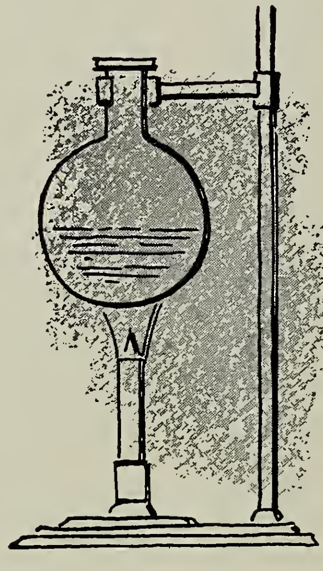

Malignant Lymphoma of the Colon and Rectum

Roentgen Diagnosis

JOHN H. WOODRUFF, JR., *M.D.*, and ALAN B. SKORNECK, *M.D.*, Torrance

• The filling defects of a particular lymphosarcoma of the colon or rectum may present an appearance identical to that of a carcinoma in the same location. In general, lymphosarcomas tend to be longer, more distensible, less sharply demarcated, more frequently polypoid, and to feel larger as palpable masses. The filling defects are infrequently of the annular "napkin ring" appearance, and occasionally the involved segment is dilated.

TWO RECENT CASES of reticulum sarcoma of the colon observed at Los Angeles County Harbor General Hospital induced us to look up earlier cases.

We were able to find three additional cases, two at Harbor Hospital and one at the Long Beach Veterans Administration Hospital.

We readily found reports of 87 cases in the American literature.* The descriptions of many of these cases were incomplete. This report is a summary of these 92 cases.

The youngest patient was two and the eldest 81 years old. The average age was 46 (Chart 1).

The sex of 54 patients was recorded—42 males and 12 females.

Table 1 shows the incidence of the principal symptoms and findings. Abdominal masses were frequently quite large. Rankin and Chumley[2] reported palpable masses in 15 of 18 cases. Other symptoms or findings mentioned were: Mass discovered on proctoscopy, ulcerative colitis, weakness, abdominal swelling, diarrhea, gas, anemia, pain on defecation, anorexia, pruritus ani, intestinal obstruction and fatigue.

Figure 1 shows the site of the tumor in 69 cases. The high incidence of cecal lesions is in contrast to carcinoma which far more often occurs in the rectum and sigmoid colon.

Lymphoma of the large intestine is much less common than carcinoma, the reported ratios ranging from one lymphosarcoma to 81 carcinomas[1] to one lymphosarcoma to 300 carcinomas.[3]

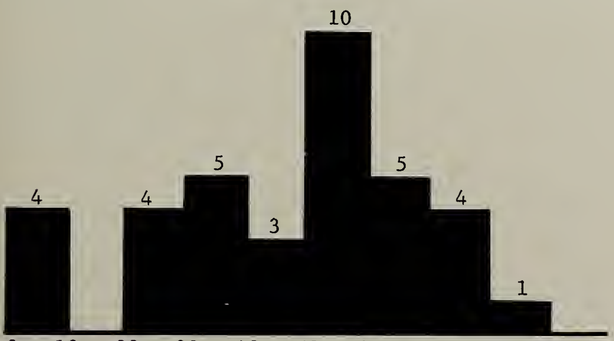

Chart 1.—Age Distribution, 36 Cases

Other points of difference between carcinoma and lymphoma are: (1) Many patients with lymphoma are young; (2) constitutional symptoms and anemia tend to be less severe in lymphomas; (3) carcinoma tends to run a slower course and the prognosis is better; (4) melena is more common and is more severe in carcinoma; (5) intestinal obstruction is common in carcinoma and rare in lymphoma; (6) masses are more frequently palpable and larger in lymphoma; (7) intussusception is rare in carcinoma and occurs more frequently in lymphomatous tumors; and (8) metastasis occurs earlier and the lesions are more widely disseminated in malignant lymphomas.

Roentgenologic Information

Roentgenologic observations were recorded in 34 cases. In 22 there were filling defects, seven of which were called polypoid, three were localized, flat and plaque-like, two were annular constrictions and two showed a diffuse thickening of the bowel wall. Six more showed an apparently extrinsic mass. One showed a dilated segment of bowel which histologically showed tumor infiltration of its muscularis. One showed radiologic evidence of perforation. In four cases there were no roentgenologic abnor-

TABLE 1.—*Symptoms and Findings in 44 Cases of Lymphoma of Large Bowel*

Abdominal mass	21
Melena	9
Rectal mass	9
Abdominal pain	8
Loss of weight	8
Constipation	4
Intussusception	3

From the Departments of Radiology of the Los Angeles County Harbor General Hospital, the United States Veterans Administration Hospital, Long Beach, and the University of California at Los Angeles.

Presented before the Section on Radiology at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

*A full list of references is available from the authors.

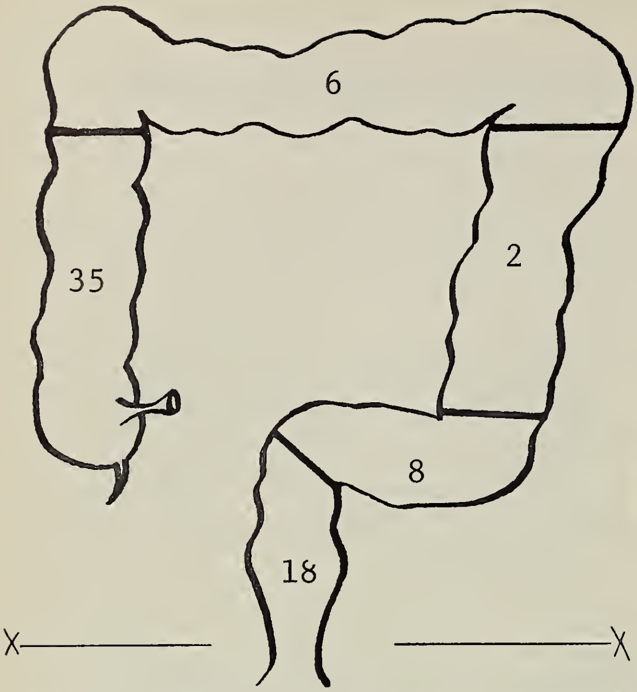

Figure 1.—Sites involved in 69 cases of lymphoma of large bowel.

malities but at operation the bowel wall was observed to be infiltrated by tumor.

A specific colonic lesion produced by carcinoma may closely resemble one produced by malignant lymphoma both roentgenologically and as observed at operation; yet, there are general differences: (1) Lymphoma tends to involve longer segments of bowel; (2) the transitional margin between the lesion and the normal bowel is wider in lymphoma than in carcinoma; (3) lymphomas are rarely annular; (4) a large palpable mass out of proportion to the filling defect is common in lymphoma; (5) occasionally the site of the lesion may be dilated in lymphoma, and (6) distention of the bowel by contrast medium may flatten out and hence obscure lymphomatous infiltration of the bowel wall.

The several forms of malignant lymphoma are similar in roentgenologic appearance. Hodgkin's disease is extremely rare in the large intestine.

The involvement of the colon may be classified as follows:

I. Primary:

A. Intramural localized to one side of the bowel wall.

B. Intramural protruding into bowel lumen, producing a polypoid intraluminal lesion. The bowel wall may be infiltrated about the base of the polypoid lesion as in (*C*) below.

C. Infiltrative. Extending along and/or around the bowel wall.

D. As above in *A*, *B*, and *C* but with extension to the regional lymph nodes. (1) Extension to regional nodes may be the cause of the bulk of the palpable mass present. (2) At times it is difficult or impossible to determine whether a lesion began in the colon and spread to the nodes, or vice versa.

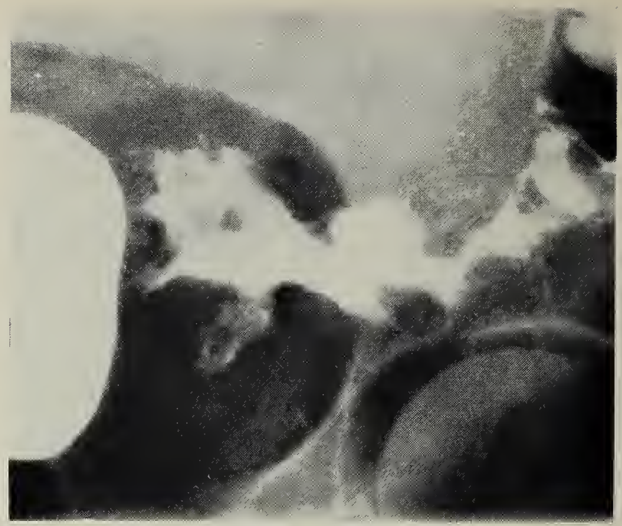

Figure 2 (Case 1).—A spot film from a barium enema examination of a 77-year-old man who had severe diarrhea and a 40-pound loss in weight. The lumen is ragged (ulcerated) and irregularly narrowed over the entire length of the sigmoid colon, with only gradual transition to normal bowel. The lesion was resected and found to be a polymorphous lymphoma, probably reticulum cell sarcoma.

II. Secondary:

A. Involvement of regional nodes, spleen or viscera with displacement of the large intestine.

B. Extending to and partly through the wall of the bowel.

C. Infiltration through the bowel wall, producing an intraluminal filling defect. Radiologically identical with lesion primary in bowel and extending to nodes.

REPORTS OF CASES

Two of our cases (Cases 1 and 2) are summarized in the captions of Figures 2 and 3. The others are given below:

CASE 3. An 81-year-old white woman complained of "gas," abdominal pain and narrow stools.

A polypoid mass was discovered on rectal and proctoscopic examination. Roentgen examination with barium and air failed to show the lesion due to poor preparation.

Operation was not attempted. At autopsy the lymphoma surrounded the rectosigmoid colon and protruded as a polypoid mass into the lumen, surrounded by normal mucosa.

The histologic diagnosis was reticulum cell sarcoma.

CASE 4. A 57-year-old white man had loose tarry stools and a tender mass in the right upper quadrant of the abdomen. There was no weight loss or other symptom.

A barium enema showed the proximal transverse colon to be depressed and narrowed by a mass which did not protrude into the lumen.

At operation a mass of enlarged nodes was found in the gastrocolic omentum. The tumor had infiltrated the walls of the stomach and transverse colon, but there appeared to be no mucosal involvement.

The histologic diagnosis was reticulum cell sarcoma.

CASE 5. A 56-year-old white man was referred with a diagnosis of hypertension. A mass was palpated on routine rectal examination. On x-ray examination with barium enema a flat irregular filling defect was noted on the left lateral aspect of the rectal ampulla. A biopsy specimen from the mass was reported as benign-appearing lymphoid tissue. The surgeon, unwilling to accept this diagnosis, resected an 8x8x3 cm. tumor, which proved to be small-cell lymphosarcoma. At a second exploration, tumor was found in many lymph nodes.

Postoperative radiation therapy was administered.

DISCUSSION

It is desirable to try to distinguish lymphosarcoma from carcinoma for the following reasons: (1) The extent of a lymphoma is usually much greater than would be estimated by its gross appearance in comparison with a carcinoma. In consequence, resection should be wider. (2) Lymphoma is quite radiosensitive. (3) Lymphoma tends to disseminate more rapidly and widely and the prognosis is much poorer.

CONCLUSIONS

1. Carcinoma of the colon and rectum is about two hundred times more frequent than lymphoma.
2. There are roentgen findings common to malignant lymphomas and carcinomas of the large intestine but associated relatively more often with one than the other.
3. In some cases there may be no differences in clinical appearance between carcinoma and malignant lymphoma.
4. Sometimes the diagnosis of lymphosarcoma may properly be suggested on the basis of roentgen observations.

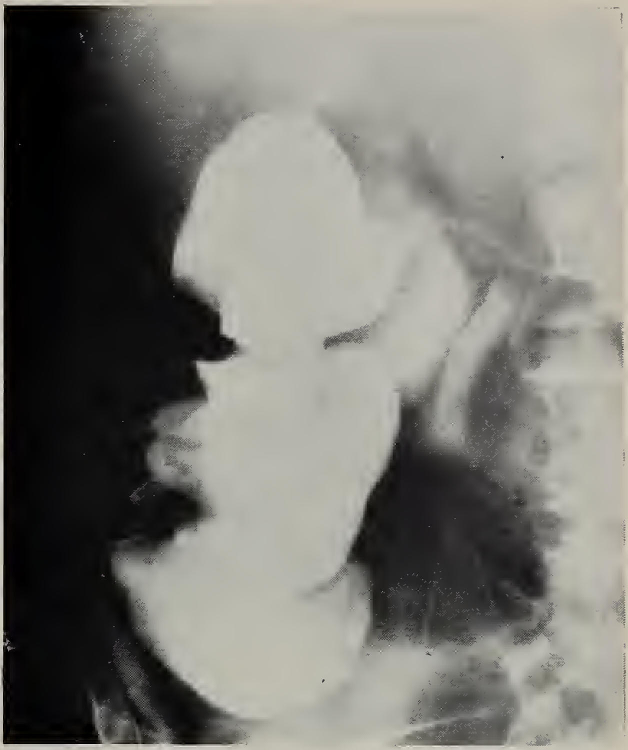

Figure 3 (Case 2).—The barium enema shows an irregular filling defect in the lateral wall of the cecum and ascending colon of a 78-year-old man. Anorexia, abdominal pain for one month, diarrhea, melena and a 70-pound loss in weight were the complaints. There was tenderness over McBurney's point. Biopsy specimens from palpable inguinal nodes on both sides were reported as reticulum cell sarcoma.

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Carcinoma of the Eyelid Treated by Irradiation

Analysis of 157 Primary and 22 Recurrent Cases

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• The eyelid is a frequent site for skin cancers of the face. Its location presents certain special problems in treatment from a cosmetic and functional standpoint. If untreated, a major deformity with possible loss of sight can result. This paper is a report of our treatment with irradiation of 157 primary tumors and 22 recurrent tumors. In 98 per cent of patients there was control of the tumor for more than five years and a good cosmetic and functional result.

CANCER OF THE EYELID may properly be considered a subtype of facial cutaneous cancer. In addition to creating a cosmetic defect, it may, if neglected, cause serious impairment of vision. Radiation long has played a major role in the treatment of cancer of the eyelid (Baclesse,[1] Hunt,[2] Martin,[3] Pompa,[4] Stetson,[5] Traub,[6] Wildermuth[8]) and remains the most commonly used therapeutic agent. Radium therapy as practiced 30 to 40 years ago is far less widely used today because of its inconvenience in application and the difficulties inherent in accurate shielding of the cornea and lens. Although there is no doubt that skin cancer in this location can be cured with either irradiation or surgical operation if the treatment is adequate, radiotherapists and surgeons still frequently disagree as to which is the better method. The purpose of this paper is to evaluate the functional and cosmetic results of treatment of carcinoma of the eyelid, both in cases not previously treated and in recurrent cases previously treated elsewhere.

Nature of This Material

This report is based on the total experience of all cases of cancer of the eyelid seen by us in private practice during a 15-year period from 1943 through 1958. There were 171 patients, 90 of whom (53 per cent) were male. There were 179 separate tumors, 90 of which were on the left and 89 on the right. In seven patients there were two or more separate cancers of the eyelid (one patient had three). In four of these seven patients the lesions were located on the same side and in three on the opposite side. Two of the patients had two separate cancers of the eyelid when first seen and in the remaining five patients new cancers of the eyelid developed eight to ten years after the first primary tumor.

One hundred fifty-seven cancers of the eyelid were previously untreated when first seen by us; 22 cases were recurrent after previous treatment elsewhere. The results of treatment of these two groups will be discussed separately.

The site of origin is usually on the skin of the eyelid, near to but distinctly separate from the palpebral margin. The basal cell variant tumor usually begins as a small mound-like, nonulcerated nodule which infiltrates the skin but is freely movable over the underlying tissues. As the nodule increases in size, it seems to have a pearly translucency, often associated with a faint telangiectasia on the surface. The rate of growth is variable; it may be so slow that ten to fifteen years elapse before the patient seeks treatment. In this series, 20 per cent of patients had an awareness of an eyelid growth for more than two years before seeking medical advice. Symptoms other than cosmetic are rare unless the lesion is larger than 10 millimeters or involves the palpebral margin, the conjunctiva or the inner canthus. Pain and discomfort are never prominent symptoms. If untreated, the tumor may grow large and will eventually ulcerate, extending onto the skin of the face and, occasionally onto the conjunctiva. Further neglect will result in invasion of the orbit, the periorbital tissues, erosion of the bone and finally intracranial extension.

Etiologic Factors; Age and Sex Incidence

As with other skin cancer, the highest incidence was in the fifth and sixth decades of life; 60 per cent of the cases in this series were in that age period (Chart 1). Five patients were in the second decade and ten in the third, which together made up only 8.5 per cent of the total series. Men were slightly more commonly affected than women—53 per cent and 47 per cent.

The most important factors in the background of cutaneous carcinoma are genetic and environmental. The genetic influence is manifested by deficiency in

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the distribution of the protective pigmentary elements, which is related to vulnerability to the damaging effect of solar radiation. The carcinogenic influence of actinic radiation is expressed in the increased incidence of skin cancer in areas such as Southern California, where the number of new cases of skin cancer per 100,000 of population is eight times what it is in Illinois and the number of hours of solar radiation, by yearly average, is also eight times that occurring in Illinois.

Site of Lesion

Forty-six per cent of the tumors in the present series arose on the lower eyelid and 35 per cent in the region of the inner canthus (Figure 1). The relatively infrequent occurrence of eyelid cancer in the region of the outer canthus or the upper lid was similar to that reported by other investigators. In only one of the primary untreated cases was there extension of the tumor onto the conjunctiva. (This series does not include 18 cases of cancer which arose on the conjunctival surface and were seen during a similar period of this study.)

Thirty-seven per cent of the patients in this series had one or more other unrelated skin cancers, either before or after treatment for the eyelid cancer (Table 1). Sixty-four per cent of the patients who were observed with a recurrent cancer of the eyelid after treatment elsewhere had other primary skin cancers. Only 4 per cent of all patients had a history of prolonged exposure to either sun or weather as a direct result of their occupation. Seven patients had decidedly heliophobic skin.

Associated Conditions

Fifteen patients at some time had neoplasms that were unrelated to the skin cancer or eyelid cancers. Twelve of the lesions were malignant, three were benign (Table 2). These data do not suggest etiological factors but emphasize that in an aging population a neoplastic process may develop in any organ at any time.

Diagnosis

The possibility of cancer exists when any tumor of the eyelid is present, whether ulcerated or not. As mentioned earlier, a cancer of the eyelid may be of considerable size before an ulceration develops. Biopsy always should be done. The specimen may be obtained readily with a punch after infiltration of the skin with a local anesthetic agent. Hemostasis is readily brought about with electrodesiccation. There is no evidence of any hazard associated with excising material for biopsy. Welch[7] reported a 14 per cent incidence of cancer of the eyelid noted in biopsy of 617 lid lesions at the Wilmer Ophthalmological Institute of the Johns Hopkins Hospital during a five-year period. A papilloma, a nevus or a chalazion were more commonly noted than was a cancer. A pigmented basal cell carcinoma might be confused with a melanoma grossly if one were to not take careful note of the slate-grey sheen which is characteristic of a pigmented basal cell. A chalazion usually can be differentiated grossly by its characteristic subcutaneous involvement and lack of overlying epidermal tissue.

TABLE 1.—*Patients with Other Cutaneous Cancer in This Series of Patients with Eyelid Cancer*

Location	157 Primary	22 Recurrent	Total
Head and neck	43	13	56
Upper extremity	5	1	6
Trunk	1	0	1
Lower extremity	0	0	0
More than one site	35	6	41
Per cent of total patients	32.8	64.0	37.0

TABLE 2.—*Noncutaneous Neoplasms in Patients with Cancer of the Eyelid*

Cancer breast	2
Cancer larynx	2
Cancer cervix	1
Cancer corpus	1
Cancer stomach	1
Cancer soft palate	1
Cancer nasal septum	1
Cancer in situ cervix	1
Leiomyosa colon	1
Melanoma	1
Pituitary adenoma	1
Mixed tumor, submaxillary gland	1
Cyst, mandible	1

TABLE 3.—*Pathology of Eyelid Carcinoma*

	Primary	Recurrent	Total
Basal cell	119	18	76.4%
Squamous cell	23	1	13.6%
Basosquamous	6	1	3.9%
Adenoid cystic	5	2	3.9%
No pathologic identification*	4	0	2.2%
Total	157	22	100 %

*Note: Two patients refused biopsy.

Pathologic Features

Basal cell carcinoma is the most common malignant tumor of the eyelid. It accounted for 76 per cent of the tumors in the present series (Table 3). Squamous carcinoma is next most common in frequency and accounted for 13 per cent of the tumors. Variants of these lesions include the basosquamous carcinoma, and the adenocystic variety of a basal cell carcinoma. In only four cases in the series was a microscopic report not available for review.

General Considerations in Treatment

The treatment of eyelid cancer does not differ materially from that of other facial skin cancer except for the need to avoid injury to the function of the eye and its adnexa. Some physicians favor surgical treatment, others irradiation; and the tendency toward one or the other depends to a great extent upon their personal inclinations, training and experience. Cancer of the eyelid is seldom a fatal disease. It did not cause death in the present series. The problem of treatment, therefore, is not one of saving life but of effecting a cure with the least degree of functional and cosmetic deformity. The treatment of an eyelid cancer requires either the removal of an adequate surgical margin, or irradiation of a surrounding area of normal tissue to insure complete control of the growth.

The relative merits of irradiation and excision cannot be judged adequately by comparing results of treatment of only small early lesions. When properly applied, these two methods will produce comparable results. When a larger lesion (over 1.0 cm.) is present or when the tumor is located in the region of the inner canthus, the best cosmetic and functional result will usually be obtained by radiotherapy. Failures after either method of therapy may be followed by the use of the other, often with success. Only in the case of most advanced cancers, where there is invasion of the orbit, would we favor radical surgical extirpation as the primary method.

Technique of Radiation

We prefer intermediate voltage radiation with a half-value layer of about 0.16 mm. copper for all tumors except those invading bone. A margin of 2 to 3 mm. on all sides of the tumor beyond its apparent gross extension is mandatory. After the application of an anesthetic agent to the conjunctiva with an eye-dropper, a gold eyeshield is placed in the conjunctival sac to protect the cornea and deeper tissues. A second shield with a portal of the required size is placed over the cancer of the eyelid and taped securely. Five hundred roentgens in air are administered twice weekly for a total of 3,000 r. A mild epidermal reaction is usually noted to reach a peak about 10 to 15 days after treatment has been completed. The cornea itself is quite resistant to doses of this order, even if unprotected. If the palpebral margin is included, the cilia usually fall out and do not regenerate. A bland ointment is useful in preventing cracking and crusting during and immediately after treatment. We do not favor radon seeds, contact radium or radium needles, although they have been used in the past by other investigators with considerable success.

The mild reaction which represents the peak effect in uninvolved skin is transient; in the average person the erythema subsides within 20 days or so after the final treatment. Usually the slight atrophy and loss of elasticity at the site of the former lesion is detectable only on close inspection. Sometimes but not often depigmentation in the treated area will persist for months and color will not be restored until the area is exposed in moderation to actinic radiation, natural or artificial. Such admirable cosmetic results are the rewards of proper choice of quality of irradiation, fractionated over the three-week period. Only for persons who are intensely heliophobic, with very thin, "red-headed" skin, is this technique unsatisfactory. For them the routine approach is discarded in favor of individualization: Their problem is manageable by smaller increments per treatment, over a longer total treatment time, use of a harder beam of x-radiation (h.v.l. $=0.25\pm$), or even a lesser total dose. Also, when the lesion is deeply infiltrating, especially into palpebral cartilage, a higher quality of irradiation and greater fractionation is important in the avoidance of chondritis due to the avascularization secondary to more caustic irradiation. With such precautions, a cancericidal effect in cartilage is customary without undesirable sequelae.

Many physicians, predominantly surgeons, have written extensively of the complications of radiotherapy in eyelid lesions. More often than not, their observations in this regard are based on experience with poorly treated cases in which complications developed mainly through too caustic irradiation, inadequate fractionation, overtreatment or some combination of these factors. Our experience is reassuring. No cataracts were noted in this series. In one patient, glaucoma developed five years after treatment and necessitated surgical therapy. In only three cases was persistent telangiectasia noted and in only one case was there persistent ectropion, and it was mild. The suppleness of roentgen therapy, its adaptability to the peculiar requirements of a neoplasm in a location adjacent to the eye cannot be excelled by any other method of therapy. Surgical excision will destroy either the lacrimal duct or gland in lesions located about the inner canthus, and these structures are resistant to irradiation. In none of this series was tearing a persistent complication of therapy. This treatment does not require hospitalization as does surgical care.

An analysis of the results of treatment in our experience will be reported in two parts: First, 157 cases of primary previously untreated eyelid cancers and, second, 22 cases of recurrent eyelid cancers which were first seen by us after failure of previous treatment.

Treatment of Primary Eyelid Cancer

One hundred fifty-seven patients with primary untreated eyelid cancer were seen in our office from 1943 through 1958, representing our total experience. These cases included only those in which the cancer reasonably could have arisen on the eyelid;

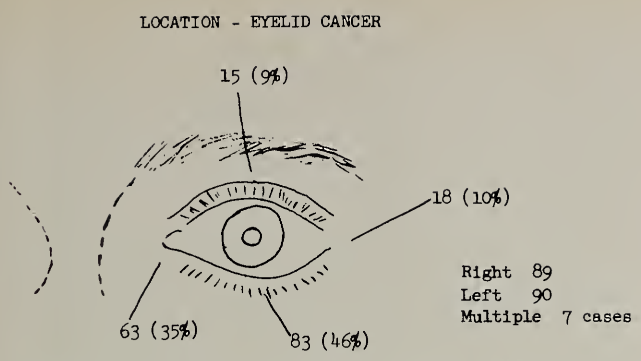

Figure 1.—Sites of lesions in 179 cases of cancer of the eyelid.

not included were cases of extension of lesions which arose either on the surrounding facial skin or on the conjunctival surface. The age incidence, the anatomic location, and the histologic patterns are noted in Chart 1, Figure 1 and Table 3. Seventy-six per cent of these lesions were 1 cm. or less in greatest diameter, an additional 18 per cent were 1 to 2 cm. across, and 6 per cent were between 2 and 6 cm. Twenty-three per cent of these neoplasms were ulcerated (Table 4). Of these patients, 146 were treated solely by irradiation after biopsy. The 11 remaining patients were treated by various means: Six by surgical excision, one by excision and graft and two by radium, all with complete control of disease. One patient was untreated because of associated melanoma, and expired as the result of melanoma eight months after the diagnosis of the eyelid cancer. One other patient was treated by electrocoagulation; recurrence was noted in ten months. The patient subsequently was treated with 3,000 r, and at last report, five years following this treatment, had recurrence. Of the 146 patients treated with primary radiation therapy, 139 had no recurrence and were free of disease at the time of this report. The roentgen dosage is noted in Table 5; 85 per cent of the patients received 3,000 r during a three-week period.

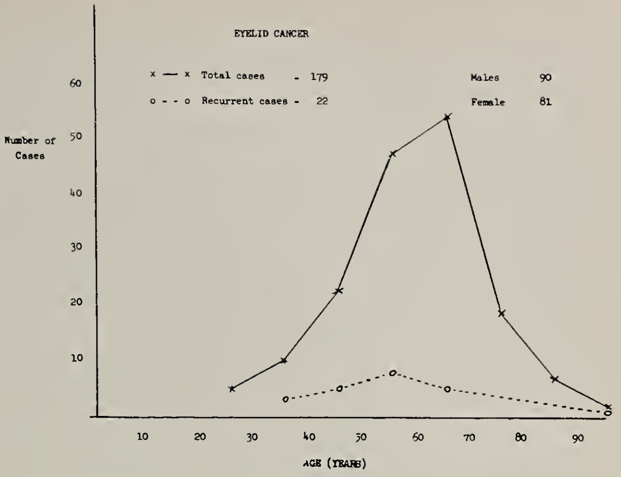

Chart 1.—Relation of incidence of eyelid cancer to age of patient.

TABLE 4.—*Appearance of Eyelid Cancer*

	Untreated Eyelid Cancer	Recurrent Eyelid Cancer	Totals
Nonulcerated	77%	59%	134 cases
Ulcerated	23%	41%	45 cases

TABLE 5.—Primary Eyelid Cancer—Irradiation Treatment

Air Dose (r)	Cases
2,500	1
2,900	1
3,000	129
3,500	8
3,750	1
4,000	3
4,500	3

TABLE 6.—*Treatment of Irradiation Failures (All had 3,000 r initially)*

Case No.	Free Interval	Treatment of Recurrence	Result
1.	1 mo.	3000 r	NED 5 yr.
2.	7 mo.	a. Excision b. Exenteration orbit 5 yr. later	Recurrent 6 yr.
3.*	2 yr.	1600 r	NED 7 yr.
4.	3½ yr.	Electrocoagulation	NED 5 yr.
5.	6 yr.	Excision, graft	Recurrent 1 yr.
6.	7 yr.	Excision	NED 1 yr.
7.	12 yr.	Lost to follow-up	?

NED—No evidence of disease.
*Recurrence clinical—not proven by biopsy.

Seven of the 146 patients treated primarily with irradiation were not cured following the first treatment of 3,000 r in air. In Table 6 these failures with irradiation are summarized and the treatment at the time of recurrence is noted. Two of these cases may not in reality be true recurrences. The patient in Case 1 had persistent disease one month following treatment and it is likely that the field which was treated primarily did not adequately cover one margin of the lesion. This area then was treated and the disease thereafter was controlled for five years. The patient in Case 7 was noted to have either a recurrence or a new lesion 12 years after the original treatment in our office, and has sought treatment elsewhere. It is likely that this is a second primary lesion, although we have not so stated. A third patient had a suspicious recurrence two years following treatment. Biopsy was not done but the lesion was retreated with 1,600 r and the patient remained well for seven years without recurrence. In the four remaining cases of failure of treatment, 3,000 r was given as the initial treatment. The lesions recurred seven months, three and a half years, six years and seven years after

TABLE 7.—*Methods of Treatment to Control Recurrent Eyelid Cancer*

	Treatment Resulting in Control				
Previous Treatment	Electrocoagulation	Excision	X-ray	Radium	Exenteration
Electrodesiccation failure	----	----	6	----	----
Irradiation failure	----	3	1	----	1
Radium failure	----	1	2	----	1
Surgical failure	1	----	2	----	2

treatment, and all recurrences were proven by biopsy. Two of these patients were treated by electrocoagulation and excision and were well at the time of this report, one year and five years after the second treatment. In two other cases radical wide surgical excision was used, one with graft, and in neither case was the disease controlled. One of the patients had recurrent cancer one year after the treatment and the other finally was treated by exenteration of the orbit and a partial maxillary resection. It is difficult to be certain that the tumor in this last mentioned case is a recurrence of the original eyelid cancer, since the patient has had literally hundreds of primary skin cancers of the head and neck region and developed a tumor which was described in the exenteration specimen as a minor salivary gland carcinoma similar to a lesion he had on the cheek. These lesions were entirely different histologically from the original basal cell carcinoma which arose on the eyelid.

In summation, in 157 primary eyelid cancers treated in our practice there was no mortality or metastasis ascribable to the lesions treated. At the time of this report, 21 patients were dead of intercurrent disease, primarily cardiovascular, although four died of other primary cancers. Only three of 157 patients, our total experience in primary treatment, had persistent disease at the time this report was written. One of these patients went elsewhere and the results of whatever treatment was given are not known. Two patients are still under our care with residual active disease. This means that in 98 per cent of the cases in the series the disease is controlled, with the possibility that in the still refractory cases control may still be brought about. No correlation between the histopathologic features, the size of the lesion or the duration of symptoms before treatment seemed significant in the present failure to control the disease in these three cases.

Treatment of 22 Eyelid Cancers Recurrent At First Visit

Twenty-two patients, all with microscopic proof of cancer, received multiple therapy before we treated them. Electrocoagulation had been used in 19 cases, surgical excision in eight, one course of x-ray therapy in seven, multiple courses of x-ray therapy in two, radium therapy in six and beta irradiation in one. Fifteen of the 22 had had two of these procedures, six had had three and one had had four. The patients' ages ranged from 37 to 91 and were rather equally divided between the 4th, 5th and 6th decades. The time interval from the first diagnosis of an eyelid cancer to the treatment of the patients in our office averaged three years, with a range from one to fifteen years. In five cases the lesions were still recurrent more than five years after initial treatment (six years in two cases, ten years in one and fifteen years in two).

Twenty of these 22 patients were free of eyelid cancer at the time of this report. In two the lesions remained uncontrolled. In all but one case curative therapy was completed within two years of admission. In that exceptional case, therapy took six years. In four cases control was obtained with the first treatment, nine with the second, two with the third, four with the fourth, one with the fifth. Of the two uncontrolled cases, one has been treated once and one has been treated six times. Ten of the 20 cases which are at present controlled have been controlled for five or more years.

The treatment that brought about control in these 20 cases was as follows: In 11 cases, x-ray therapy, in four surgical excision, in four radical orbital exenteration, in one electrocoagulation (Table 7).

Electrocoagulation is not considered to be a suitable treatment for a recurrent eyelid cancer. Previous radiation therapy does not foreclose the use of irradiation again, and the end results are surprisingly good, both cosmetically and functionally. One would expect that surgical excision would be mandatory after failure with radiation, but the results do not confirm this.

DISCUSSION

A report of five-year results in cancer of the eyelid is not revealing because of the rare instance of death as a result of this neoplasm. None of the deaths in this series were due to eyelid cancer. Many patients in the series were in the geriatric range and died of intercurrent disease. In only four of the 179 cases was the disease not controlled at the time of this report. We feel that this neoplasm can be successfully treated in all cases. There is no reason for not attempting curative treatment of a recurrent lesion. In none of the cases in this series did metastasis develop, either in the neck or elsewhere. One patient had a metastatic squamous cancer in the node in the upper jugular chain ten years after control of a primary carcinoma of the eyelid. However, this patient had had multiple skin cancers on the face and, a year before the appearance of the metastatic lesion in the neck, had had a squamous cancer of the homolateral ear excised, and this is the most likely source of the metastatic extension.

The lack of serious complications in the cases in the present report removes any doubt about the safety with which radiation is used. The excellent cosmetic appearance of these patients cannot be equalled by surgical treatment.

The natural history of this neoplasm with its dilatory growth pattern and local persistence of tumor without metastasis suggests that early diagnosis and treatment is far less important than adequate primary treatment. The careful positioning of a radiation port with proper shielding of both the surrounding skin and the underlying eye require meticulous attention to detail on the part of the therapist. The frequent occurrence of multiple eyelid cancers in the same patient makes careful follow-up for an indefinite period an important consideration. It is impossible, except on theoretical grounds, to distinguish late recurrence of an eyelid cancer from primary new eyelid cancer. In view of the long natural history of this neoplasm, we believe that freedom from persistent or recurrent disease for three to five years after treatment does not assure there will be no late recurrence.

Neglect of this growth necessitated radical exenteration of the orbital contents in five patients in this series.

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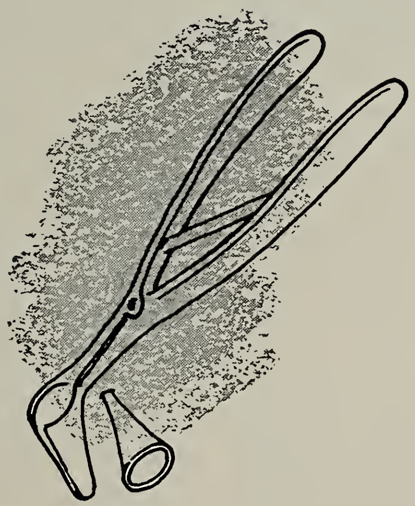

Live Birth Certificates

Evaluation of Medical and Health Data in California

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ARLINE LEWIS, ***M.P.H.,*** **and**
LAUREL HAMMES, ***B.A.,*** **Berkeley**

• **In a study of 1,609 single live births occurring in San Francisco County, the information on the birth certificate was compared with that on the hospital record to determine completeness and accuracy of the items reported on the certificate.**

Items such as color or race of mother, age of mother, birth weight and birth length of child were well recorded on the certificate and agreed with information found in the hospital record.

Medical conditions were grossly underreported on the birth certificate. Conditions relating to the mother were more frequently recorded than those relating to the infant, but the birth certificates recorded less than one-fifth of all medical conditions of both mother and infant that were entered in the hospital records.

Methods suggested for improving the quality of maternal and newborn morbidity information include revision of the medical section of the present certificates of live birth and fetal death and use of a precoded hospital record.

In 1949 a medical and health section was added to the California certificates of live birth and fetal death, designed to elicit information of public health, clinical and statistical value. For some time, however, the reliability of the information obtained from the medical section of these certificates has been questioned. Studies from Washington, D. C.,[3] and New York[2] have demonstrated many shortcomings in the current method of using birth certificates for obtaining certain information. These studies have shown that some of the data obtained from live birth certificates, particularly from the medical supplement, are incomplete and inaccurate.

To determine the completeness and accuracy of information recorded on the California Live Birth Certificate compared with hospital records of the same persons, a study was carried out jointly by the San Francisco City and County Health Department, the State Department of Public Health and the 16 hospitals in San Francisco County having obstetrical departments. Selected information recorded on all 1,671 of the live birth certificates filed in San Francisco during April 1957 was compared with information found in the San Francisco hospital records. The necessary information from the hospital records was obtained during July and August 1957 by 19 physicians employed by the San Francisco City and County Health Department.

FINDINGS

This report comprises the records of 1,609 single live born infants who survived the first two months of life. Twenty-eight infants who died within two months of birth and thirty-four multiple births are excluded to simplify the presentation of the data in this report. Exclusion of these cases does not alter significantly the results reported, as the small number of infants involved makes little change in the percentages of completeness or agreement. In only one respect, medical condition of the infant, is the pattern of reporting significantly different between single live births and the live births that were excluded.*

In this paper, the word *agreement* is used to mean that information regarding a certain item is found on both the hospital record and the birth certificate and it is the same. If one or the other record does not supply any information for a certain item, this is not interpreted as a disagreement but is considered to be *incomplete* reporting. Table 1 shows completeness and agreement of reporting information on the birth certificate and hospital record.

Completeness of Reporting

In this study it was presumed that certain information about the mother and infant—for example, color or race and age of mother, first day of last normal menses, month prenatal care was begun, method of delivery, birth weight and birth length—asked for on the birth certificate, would also be recorded in the hospital record. But these items were not always found in the hospital records. In some

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From the Bureau of Maternal and Child Health and the Bureau of Vital Statistics and Data Processing, California State Department of Public Health, 2151 Berkeley Way, Berkeley 4.

Submitted July 27, 1961.

*Detailed listing and discussion of all the items studied is not given in this report. Persons interested in more specific details or details for the two small groups excluded may obtain such information from the authors.

TABLE 1.—*Selected Items of Information About Mother and Infant—Comparison of Matched Birth Certificates and Hospital Records, San Francisco (Single live birth certificates filed April, 1957)*

	Number								Per Cent	
		On Both Records								
Item	Total	Total	Agreement	Disagreement	Undetermined*	On Birth Certificate Only	On Hospital Record Only	On Neither	Completeness on Birth Certificate	Agreement Between Birth Certificate and Hospital Record
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(b+f)÷a	c÷b
Identifying and medical information:										
Color or race of mother	1,609	1,451	1,417	17	17	155	1	2	99.8	97.6
Age of mother	1,609	1,584	1,345	239	....	6	19	....	98.8	84.9
First day last normal menses	1,609	1,227	987	195	45	224	66	92	90.2	80.4
Month prenatal care began	1,609	759	384	365	10	838	3	9	99.2	50.6
Birth weight	1,609	1,604	1,541	62	1	....	5	....	99.7	96.1
Length at birth	1,609	1,568	1,485	82	1	27	7	7	99.1	94.7
Method of delivery	1,609	1,581	1,237	267	77	26	2	....	99.9	78.2

*Insufficient or inconsistent information reported.

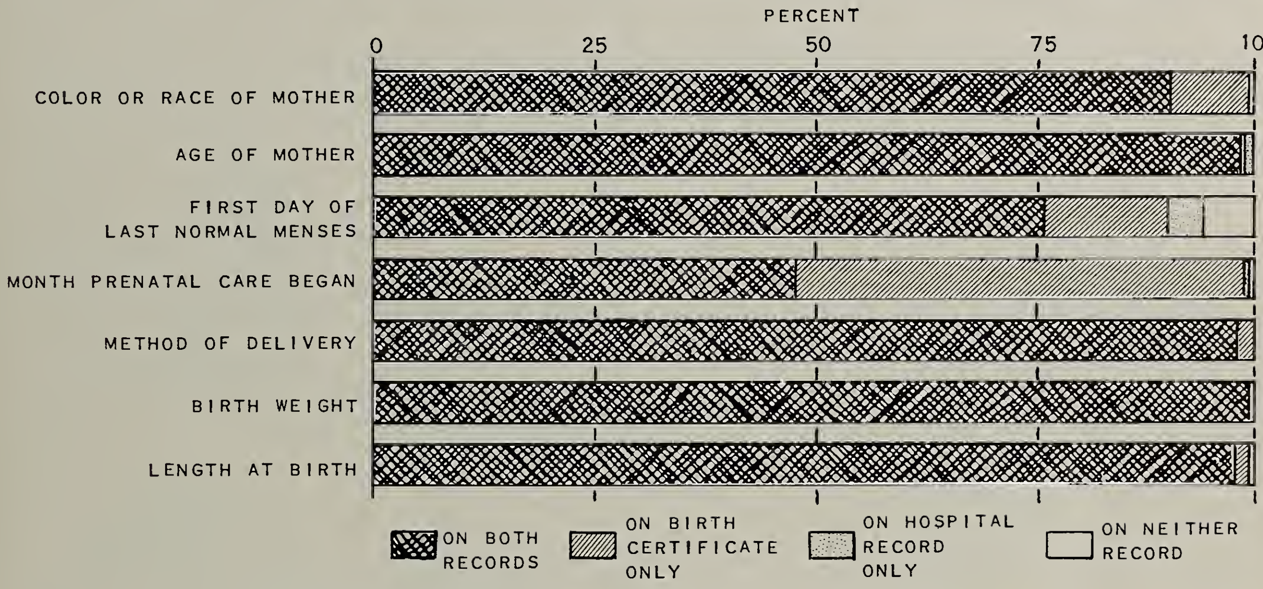

Chart 1.—Source of Various Items of Identifying and Medical Information

instances the item was not entered on either the birth record or the hospital record. It may be that because length at birth, first day of last normal menses and the month prenatal care was begun were new items added to the medical supplement of the birth certificate in January 1957, they were not always found in the hospital record although usually reported on the birth certificate (Chart 1).

Agreement in Reporting

Agreement in reporting on both the birth certificate and hospital record varied considerably for these study items (Chart 2).† On color or race of mother, birth weight and birth length there was agreement of 95 per cent or better. As to age of mother there was 85 per cent agreement; and in most cases in which there was disagreement in age it was not by more than one year.

The agreement between records as to first day of last normal menses was 80 per cent. For some of the cases agreement could not be determined because of inadequate information, even though some information was supplied. Where definite disagreement could be ascertained, the disagreement was usually less than six days.

There was 78 per cent agreement as to method of delivery. Where disagreement occurred, it was mainly in relation to underreporting low forceps delivery on the birth certificate. When the two methods of delivery, spontaneous and low forceps, were combined into one category for the purpose of comparing delivery data on the two records, agreement was increased to 95 per cent. Agreement of records on cesarean section delivery was the highest —96 per cent. As to two methods, mid and high

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†A strict interpretation of agreement was used for the study. For example, on both records age of mother had to be the same number of years; weight of infant the same number of pounds and ounces; the length of the infant the same number of inches; and first day of last normal menses the same month, day and year.

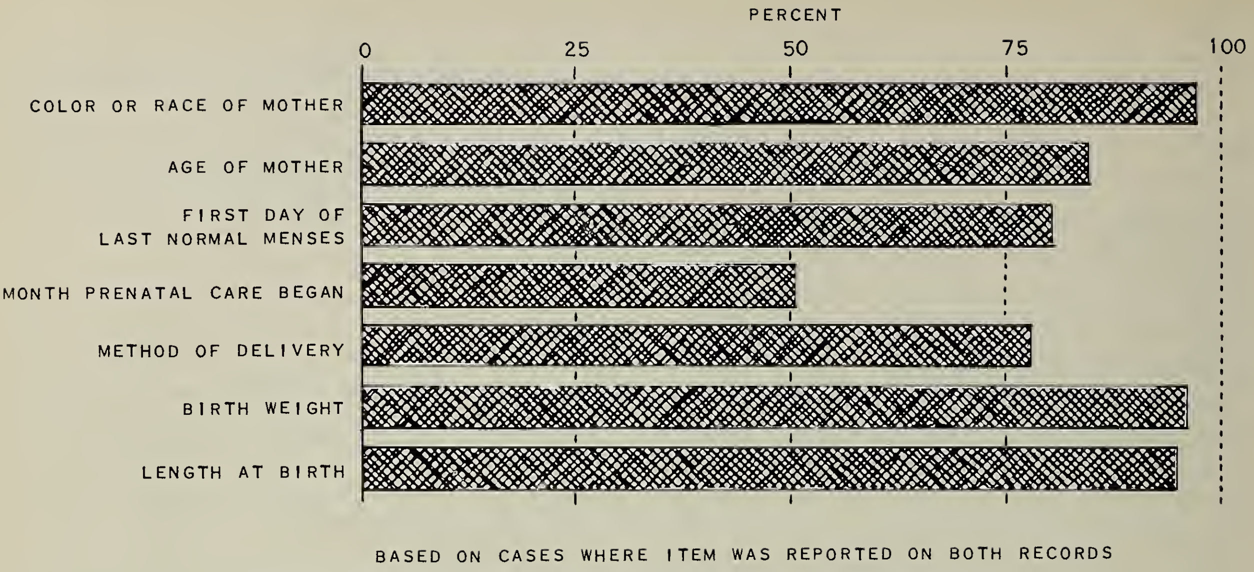

Chart 2.—Agreement Between Birth Certificates and Hospital Records (Based on cases where item was reported on both records)

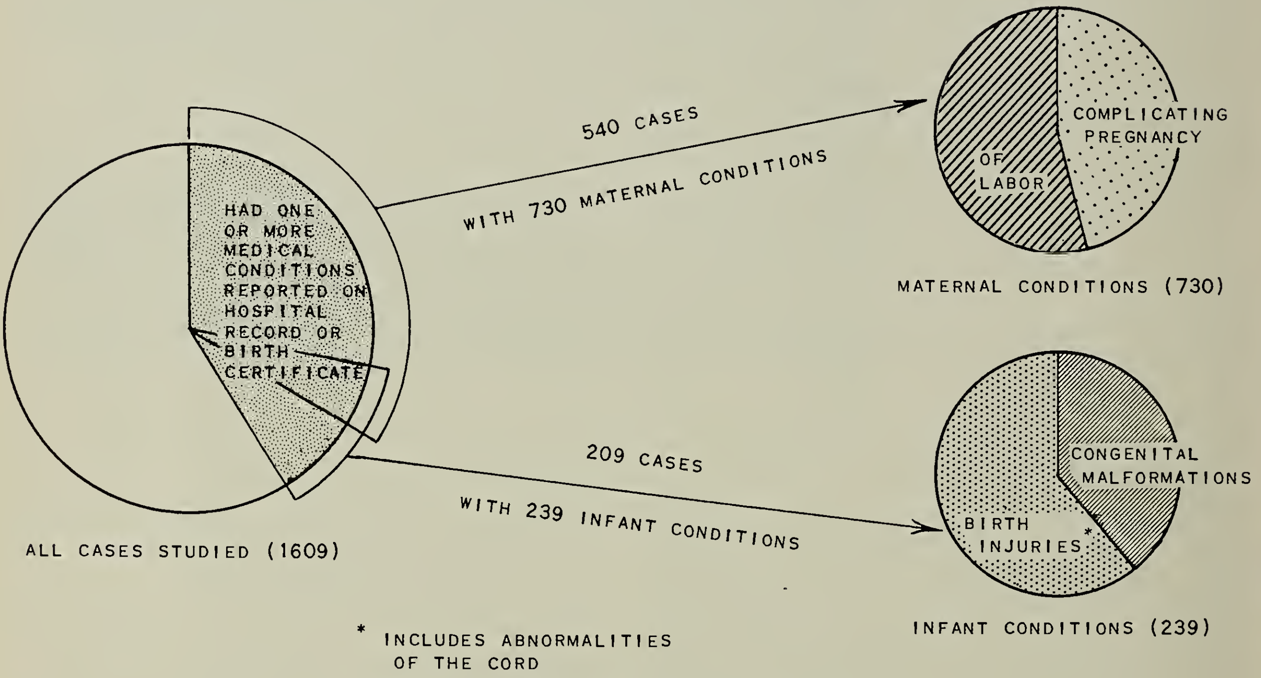

Chart 3.—Medical Conditions in Mothers and Infants

forceps and breech delivery, there was low agreement, about 50 per cent.

The time of the initial prenatal visit was reported on both records for about half of the cases. Where this information was reported on both records, there was agreement for 51 per cent of the cases. The disagreement in reporting was primarily a one-month difference (see Chart 2).

Medical Conditions

The medical and health data section on the live birth certificate requests information regarding the existence of selected medical conditions in the mother and in the baby. Items for the mother include complications of pregnancy, labor and delivery, while the specific items relating to the infant include congenital malformations and birth injuries.

Among the 1,609 cases, 663 (41 per cent) had at least one of these selected medical conditions,* in either the mother or the infant, reported on either the birth certificate or the hospital record or both.

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*In tabulating these conditions, all such conditions were counted regardless of the severity.

A medical condition was reported for the mother in 34 per cent of the cases and for the infant in 13 per cent (Chart 3).

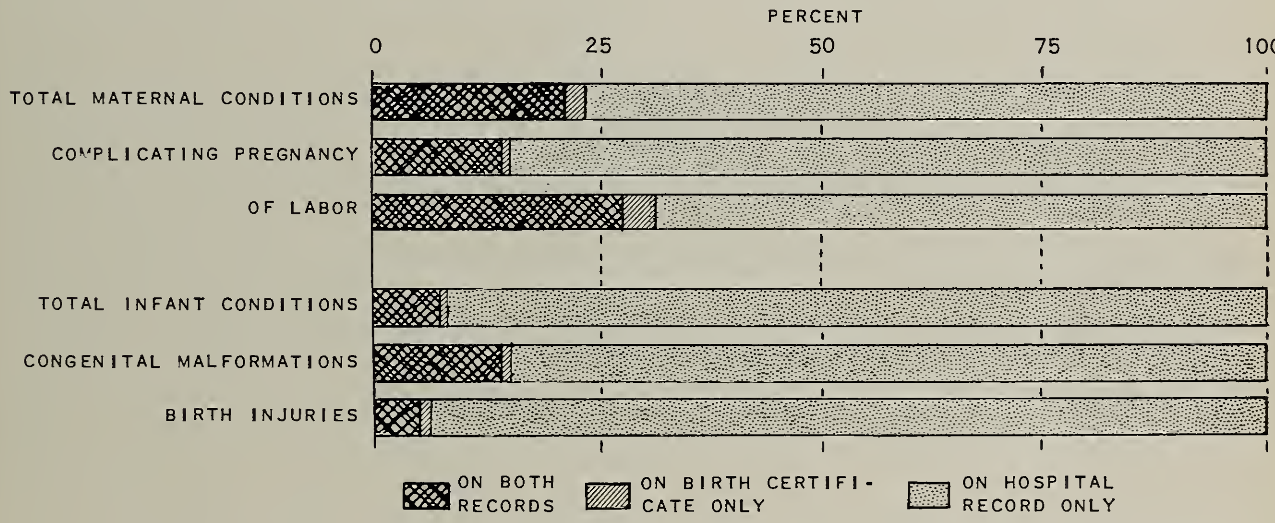
A total of 969 medical conditions (for both mother and infant) was reported on either the birth certificate or the hospital record, but only 18 per cent of these conditions were reported on both records. More maternal conditions (22 per cent) were reported on both the birth certificate and hospital record than infant conditions (8 per cent). There was more reporting of complications of labor (28 per cent) on both records than of any other condition (see Chart 4 and Table 2). There were 146 conditions which, according to International Statistical Classification, were classified as birth injuries. However, of these 146 conditions, 108 were abnormalities of the cord, which, although included in the International Statistical Classification, are not generally considered to be birth injuries.

Of specific medical conditions reported for at least 15 cases, the conditions which were reported most often and the proportion of cases in which they were reported on both the birth certificate and the hospital records were as follows:

	Agreement (Per Cent)
Cephalopelvic disproportion	72
Pre-eclampsia	51
Breech presentation	46
Precipitate labor	38
Uterine inertia	27

METHODS USED IN HOSPITALS TO COMPLETE BIRTH CERTIFICATES

On reviewing the procedures which the participating hospitals carried out to complete the 1957 live birth certificates, it was found that in a number of hospitals, various persons other than the attending physician record information on the birth certificate. In 12 of the hospitals, a specific person has responsibility for completing the birth certificate. This person may be a clerk in the medical records library or a nurse or a clerk in the maternity department. In four hospitals the responsibility for completing the certificate is assigned to more than one person, and in another an auxiliary volun-



BASED ON TOTAL CASES REPORTING THE CONDITION ON EITHER RECORD

Chart 4.—Source of Information on Medical Conditions

TABLE 2.—*Maternal and Infant Medical Conditions—Comparisons of Matched Birth Certificates and Hospital Records, San Francisco (Single live birth certificates filed April, 1957)*

Item	Number: Total (a)	Number: On Both Records (b)	Number: On Birth Certificate Only (c)	Number: On Hospital Record Only (d)	Per Cent Reported on Both Records b÷a
Medical conditions, total	969	178	20	771	18.4
Maternal conditions, total	730	158	17	555	21.6
Complicating pregnancy	336	49	2	285	14.6
Of labor and delivery	394	109	15	270	27.7
Infant conditions, total	239	20	3	216	8.4
Congenital malformations	93	13	1	79	14.0
Birth injuries	146	7	2	137	4.8

teer worker is used to assist the professional staff in completing the birth certificate.

In each of the hospitals more than one source of information was used in completing the certificate, for example, the mother, the medical record, the delivery room book or the attending physician's report. Hospitals having prenatal clinics regularly keep a record of the prenatal course as a part of the hospital record. In six of the thirteen nongovernmental hospitals, prenatal care information is regularly available in hospital records of private patients.

DISCUSSION AND RECOMMENDATIONS

Factual demographic items, such as maternal age and race, birth weight and length reported on the California birth certificate in San Francisco generally agree with those found in the hospital record. Items requiring medical diagnosis or recall, such as maternal and infant complications and month of first prenatal visit, are grossly underreported on the birth certificate and in some instances the information that is reported disagrees with that found in the hospital record. The incidence of prematurity based on birth weight or on birth length can be used with confidence. The incidence of prematurity based on weeks of gestation computed from the date of first day of last normal menses to the date of birth does not appear to be good measurement of prematurity because there is less agreement between what is reported in the hospital record and what is recorded in the birth certificate.

The incidence of congenital malformations or birth injuries would be minute because of underreporting if the birth certificate were the only source of such information. Underreporting in some cases may be the result of the reluctance of a physician to stigmatize a child with the diagnosis of a congenital malformation. It also may be due to other factors such as inability on the part of the physician to recognize and diagnose certain types of congenital malformation in the newborn, his confusion as to just what is meant by the term "congenital malformation" as used on the birth certificate, or his unawareness as to the value of collecting information about the incidence of congenital malformations, since little of this information in the past has ever been channeled back to him. In the case of birth injuries, fear of legal action if the information is reported may also contribute to the incomplete reporting of this information.

The extent of selected medical conditions in the mother as determined by information recorded in San Francisco on the birth certificate appears to be greater than for the infant. Conditions complicating the mother's labor and delivery are reported relatively more frequently than infant complications, but the number of maternal complications reported on the certificate was only one-quarter of all such complications found in the hospital records. The birth certificate can be used with confidence as a source of information regarding the extent of cesarean section deliveries but as to other specified methods of delivery it does not supply information in a form consistent with that found on the hospital record.

Whether or not the birth certificate is the appropriate instrument for obtaining meaningful information on current problems of maternal and early infant health should be examined in light of the inadequacies of reporting which have been discussed. California law requires that all physicians who attend the birth of an infant or, in the absence of a physician, either one of the parents, shall be responsible for registering the birth with the local registrar. Although local registrars frequently question attending physicians when birth certificates are not complete or appear to be inaccurate, they cannot be expected always to know whether all the requested medical information has been entered.

The medical information recorded on the birth certificate is collected for use by local health departments to assist in planning and administering their programs. These medical items are confidential and are placed in a separate section of the certificate so that the section can be omitted when copies are certified for ordinary purposes. A few local health departments make additional use of this information in preparing pertinent reports of items of medical interest for use by physicians in practice.

Incompleteness in reporting information on the birth certificate is not the only problem. Inaccurately recorded information is even a greater one. It may be that lack of clarity and specificity in the terminology of the medical supplement can be overcome by the use of standard definitions developed with the aid of the medical profession.

As a result of the present study, alternative methods as well as improved techniques for insuring complete and accurate reporting are under consideration in California. Revision of the medical and health data section of the birth certificate is one method currently under review. Simplification and specificity of the items requested will be developed concurrently with establishment of standard definitions of the items. Two possible formats of the medical section of the certificate will be tested. One will be a slight revision of the existing certificate —for example, asking for method of delivery rather than operation for delivery. The second, of "check list" type, will list specific complications, operative procedures and abnormalities which the physician need only mark appropriately. This latter style is in use in several states.

Another technique for improving the collection of maternal and newborn morbidity information that may evolve as an alternative method is the standardization of hospital records for prenatal, maternity and newborn services. Such a record, if designed also to be used as a code sheet, will permit the recording and coding of appropriate information at the same time by the person best able to make the necessary judgments, the attending physician. A record of this type is being tested in a large hospital in California. A similar project, using the method of a code sheet for abstracting obstetrical information from hospital records, is being tried out in Hartford, Connecticut.[1]

State Department of Public Health, 2151 Berkeley Way, Berkeley 4 (Montgomery).

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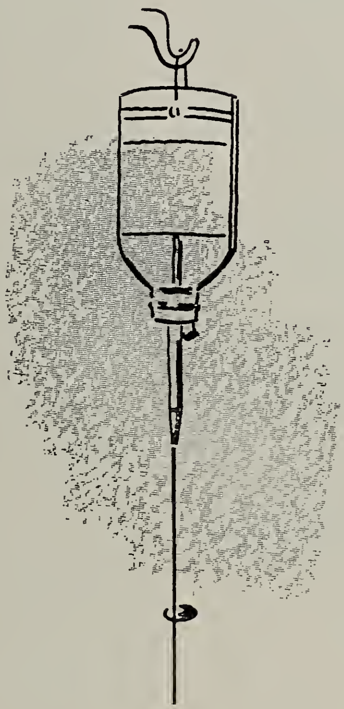

Bronchial Asthma

Patterns of Morbidity and Mortality in the United States, 1951-1959

PIERO MUSTACCHI, *M.D.*, SALVATORE P. LUCIA, *M.D.*,
and LILIANA JASSY, *B.S.*, San Francisco

• On a nationwide basis, bronchial asthma occurs at the rate of 23 cases per 1,000 population. Young males develop bronchial asthma more readily and more severely than young females. Males dying from asthma outnumber females 2 to 1.

Eight per cent of the asthmatic persons in the United States have not sought medical attention for this condition. Repeated attacks of severe bronchial asthma increase the likelihood of premature death.

Approximately 6,000 deaths due to asthma occur annually in the United States, with a seasonal increase during the winter months. The estimated fatality rate of asthma in the general population is 1.5 deaths per 1,000 asthmatics.

BRONCHIAL ASTHMA plays a definite role in the nation's health picture: First, as an illness associated with substantial disability; next, as a factor adversely affecting life expectancy; and finally, as a cause of death.

On a nationwide basis, bronchial asthma is encountered at the rate of 23 cases per 1,000 population.[3] This estimate is derived from figures obtained by the National Health Survey during a 52-week study period ended in June, 1958. The survey was conducted on a population sample of approximately 115,000 people from 36,000 households, with representation from every state.

Inasmuch as bronchial asthma and hay fever frequently coexist, most surveys have combined both illnesses under a single heading, "asthma-hay fever." According to the National Health Survey, the morbidity rate for the combined asthma-hay fever group hovers around 48 to 54 cases per 1,000 population.[3,4] Table 1 presents this rate as well as rates noted in four other recent surveys. The reported results range from a low value of 16 cases per 1,000 for New York City, to one more than four times as large for California. The differences in the reported estimates may reflect lack of uniformity in the methods and the techniques used in the five surveys as well as actual variations in chronologic or in geographic prevalence. Consequently, these published rates cannot be compared with each other. Yet, the data derived from the National Health Survey are in agreement with the suggestion of a greater prevalence of asthma-hay fever in the West* than in other regions of the United States (Chart 1) with rates for all places of residence, (urban, rural nonfarm, and rural farm) contributing to the high rate (Chart 2).[4] Among selected Metropolitan Areas, the highest rates were observed in San Francisco and Los Angeles (Chart 1).[5] The geographic variations in the prevalence of asthma-hay fever cannot be attributed to variations in the age distribution of the populations residing in the four geographic

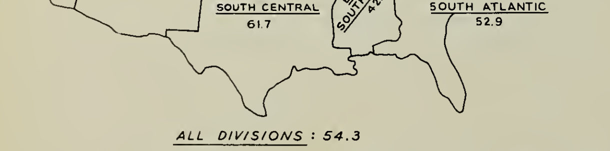

Chart 1.—Prevalence of asthma-hay fever per 1,000 population: By geographic divisions and selected metropolitan areas.[5]

TABLE 1.—*Frequency of Asthma-Hay Fever per 1,000 Persons as Estimated During Five Recent Surveys*

Surveyed Area	Year	Rate per 1,000 Persons
Michigan[6]	1950	36
New York City[1]	1952	16
California[9]	1954-55	69
Hagerstown, Md.[11]	1955-57	33
United States (National Health Survey)[3]	1957-58	48

From the Departments of Preventive Medicine and Medicine, University of California School of Medicine, San Francisco 22, and the Office of Epidemiologic Surveys, Children's Hospital, San Francisco 18.

Aided by Field Investigation Grant CS-9751, National Institutes of Health, Department of Health, Education and Welfare, Washington, D. C.

Presented before the Section on Allergy at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

*See Appendix.

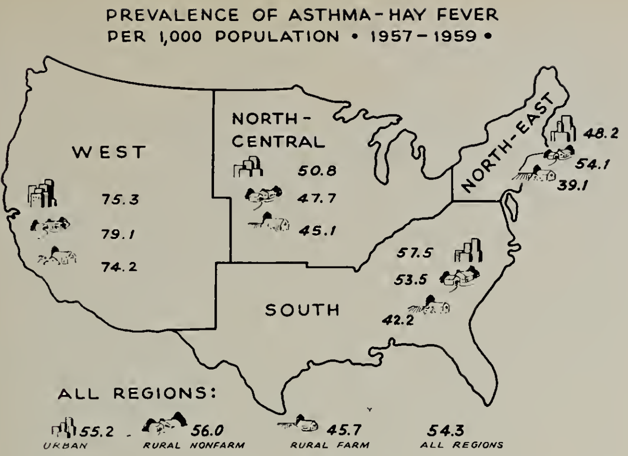
PREVALENCE OF ASTHMA-HAY FEVER
PER 1,000 POPULATION • 1957-1959 •
WEST
75.3
79.1
74.2
NORTH-CENTRAL
50.8
47.7
45.1
NORTH-EAST
48.2
54.1
39.1
SOUTH
57.5
53.5
42.2
ALL REGIONS:
55.2
URBAN
56.0
RURAL NONFARM
45.7
RURAL FARM
54.3
ALL REGIONS

Chart 2.—Prevalence of asthma-hay fever per 1,000 population: By geographic region and urban-rural residence.[4]

areas.[4] The available data do not allow an evaluation of the role of migration possibly influencing the high rates observed in the West.

Age and Sex

For all age groups combined, and on a nation-wide basis, the rate of asthma-hay fever is almost identical in both sexes: 55.1 cases per 1,000 males and 53.5 cases per 1,000 females.[4] There is also very little difference in the sex-specific prevalence rates calculated for each separate geographic region of the United States (Chart 3). However, age-specific rates differ considerably for boys and girls under age 15, the rates observed in boys exceeding by approximately 50 per cent those observed in girls of comparable age. After puberty this sex-linked trend appears to be reversed (Chart 4).

Disability

The disability associated with any illness can be measured in terms of its duration (in days) and can be classified in terms of its severity, that is, either as "restricted activity," if it merely curtails a patient's usual activity, or as "bed disability" if confinement to bed is required. All hospital days are classified as "bed disability" even though confinement to bed is not required.

Table 2 indicates that asthma-hay fever is more disabling to boys under the age of 15 than to girls of the same age and that the greatest disability is experienced by asthmatics in early and late life.[3]

TABLE 2.[3]—*Number of Annual Disability Days per Person with Asthma-Hay Fever by Age. Both Sexes Combined Except Where Specified. United States, July 1957 to June 1958.*

Age	Restricted Activity Days		Bed Disability Days
All ages	11.9		3.7
Under 15 (males 11.3, females 8.9)	10.4	(Males 4.6, females 3.3)	4.1
14-44	6.5		1.7
45 and over	20.9		6.1

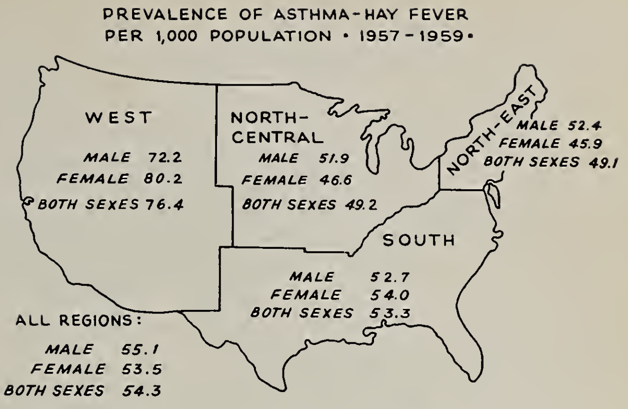
PREVALENCE OF ASTHMA-HAY FEVER
PER 1,000 POPULATION • 1957-1959 •
WEST
MALE 72.2
FEMALE 80.2
BOTH SEXES 76.4
NORTH-CENTRAL
MALE 51.9
FEMALE 46.6
BOTH SEXES 49.2
NORTH-EAST
MALE 52.4
FEMALE 45.9
BOTH SEXES 49.1
SOUTH
MALE 52.7
FEMALE 54.0
BOTH SEXES 53.3
ALL REGIONS:
MALE 55.1
FEMALE 53.5
BOTH SEXES 54.3

Chart 3.—Prevalence of asthma-hay fever per 1,000 population: By geographic region and sex.[4]

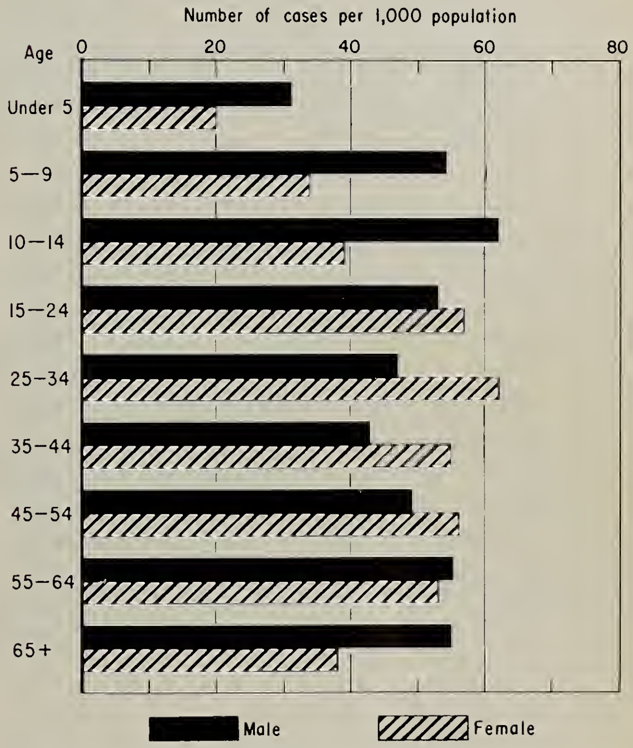

Chart 4.—Number of cases of asthma-hay fever per 1,000 population by age and sex.[3]

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Medical Attention

Even though not all sick persons seek medical attention, 92 out of 100 asthmatics were currently or had been under medical care.[3] Only 8 per cent had never sought medical advice. (Chart 5.)

IMPAIRMENT OF LONGEVITY

In 1951 the Society of Actuaries studied material contributed by 27 companies representing 70 per cent of the ordinary life insurance policies in force

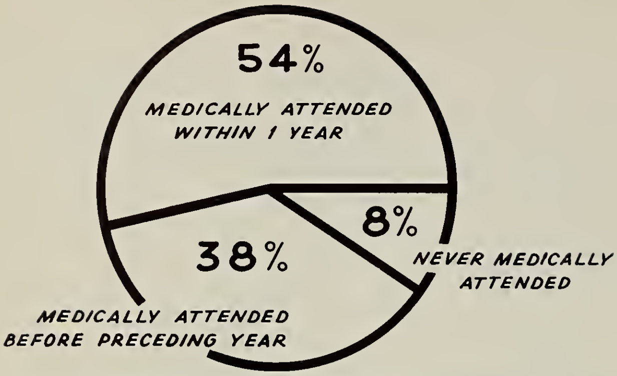

Chart 5.—Percentile distribution of cases of asthma-hay fever reported in interviews by medical attention.[3]

in the United States and Canada. From policies written at standard and substandard premium rates, the study sought information regarding the mortality of policyholders with various medical impairments, including bronchial asthma.

Curtailment of Life Expectancy

Among persons issued policies at standard premiums, a previous history of asthma was not associated with a shortened life span. On the other hand, policies issued to persons classified as substandard risks were terminated by death at an accelerated rate (154 per cent of expected). Among those with history of repeated mild attacks, the observed mortality ranged between 120 per cent and 150 per cent of the expected figures, and among those with a history of repeated attacks of unspecified intensity the mortality was 145 per cent to 165 per cent of the expected figures. The mortality of policyholders with history of multiple severe attacks was between twice and three times the expected numbers.[2]

MORTALITY

Mortality attributed to bronchial asthma in the United States is not negligible. During the past decade the yearly average number of deaths so certified approximated 6,000. This exceeds the number of deaths due to duodenal ulcer and is equal to about half the number of leukemia deaths.

Mortality by Cause of Death

Policies issued to persons with a history of asthma were terminated by deaths due to asthma and pulmonary emphysema in 42 cases, whereas less than one such death would have been expected. Deaths due to diseases of the cardiovascular system were also overrepresented.[7]

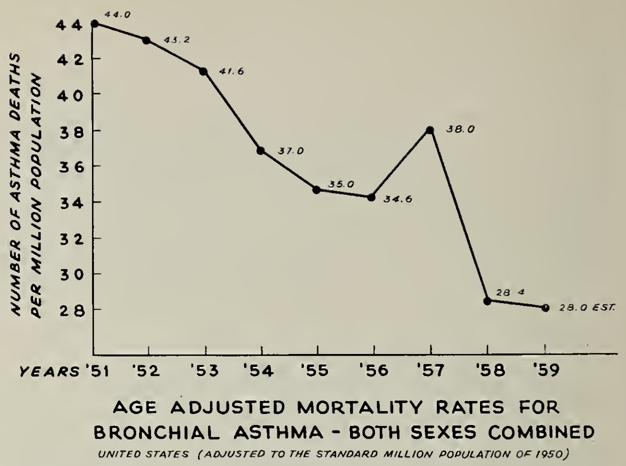

Chart 6.—Trends in mortality from bronchial asthma. Based on the mortality data for the years 1951-1959 and adjusted to the standard million population of 1950.

(From U. S. Vital Statistics.)

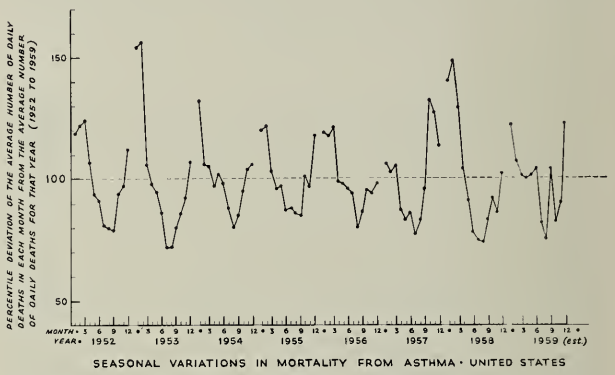

Chart 7.—Seasonal variations in mortality from bronchial asthma in the United States. Based on the mortality data for the years 1952-1959.

(From U. S. Vital Statistics.)

In certifying a death as being due to asthma (Code No. 241), cardiac asthma (Code No. 432.2) and pneumoconiotic asthma (Code No. 523-524) are specifically excluded. However, even after these exclusions, a certification of asthma does not necessarily imply that the death was due to "asthma, specified as bronchial or spasmodic." In fact, after autopsy, a clinical diagnosis of bronchial asthma may be changed to a diagnosis of a systemic illness of which asthma is only a symptom—for example, mucoviscidosis or periarteritis. In 1958, one autopsy was performed for every seven deaths certified as asthma in the United States. It is impossible to estimate the extent of diagnostic revisions which might occur if pathologic confirmation of the cause of death could be obtained in all or almost all fatal cases of asthma.

During the period 1951-1959, approximately 2,200 asthmatic patients were studied at the University of California, San Francisco Medical Center. Twenty-two died in the University Hospital, and an autopsy was performed in all cases but one. Fifteen patients (14 examined postmortem) died for reasons independent of asthma: Cardiovascular diseases, nine cases; neoplasms, three cases; surgical complications, cirrhosis and anesthesia, one each. Six patients were in status asthmaticus either at the time of death (five cases) or until shortly before they died (one case). In three of six patients the bronchial asthma was the presenting symptom of a systemic disease (periarteritis nodosa, two cases; mucoviscidosis, one case). One patient died of complications of pulmonary emphysema.

Secular Variations in Mortality Rates

Vital statistics data indicate that mortality rates for bronchial asthma have progressively declined since 1951 and that the 1958 values were one-third smaller than those of 1951. The decreasing trend in mortality was temporarily reversed in 1957 (Chart 6). As will be brought out later, an analysis of the monthly variations in asthma mortality suggested an association between the 1957 mortality peak and a coincidental epidemic of influenza.

Monthly Variations in Asthma Mortality

To compute the percentage which the daily death average in a month is of the daily death average in that year, we have used the ratio:

$$\frac{\text{Average No. of daily deaths in a specific month of a given year}}{\text{Average No. of daily deaths for that entire year}} \times 100$$

Chart 7 summarizes these findings. The curve shows that mortality is cyclical, being maximal in January and minimal during the summer months. This observation may have some practical implications, particularly when examined in the light of the extraordinary mortality of the winter of 1957-58. Mortality peaks in asthma deaths occurred in October-November, 1957, and in January-February, 1958. They roughly paralleled the two major waves of the influenza epidemic. Thus the clinical impression that a superimposed infection may play a considerable role in accelerating the fatal outcome of persons with bronchial asthma finds here further epidemiological corroboration. As a corollary, it is suggested that the asthmatic person be taught (or have prescribed) the precautionary measures necessary to protect him against any health hazard that might result in a respiratory infection.

Mortality by Age, Race, and Sex

The most recently published age, sex, and race specific mortality rates[10] are shown in Table 3. For the white race and for all races combined the male to female ratio of the crude rates is 2 to 1. This ratio, however, is almost 1 to 1 in nonwhites. It is interesting that before middle age the sex-linked differential is absent and appears only after age 45 in whites and after age 55 in nonwhites.

Case Fatality in Asthma

As a rule the first asthmatic attack is not fatal. Thus it can be assumed that, for any given time interval, the ratio between the number of asthmatics who die and those who are alive will yield a reasonable estimate of the fatality rate in bronchial asthma.

The prevalence estimates of the National Health Survey indicate that 23 persons in 1,000 have bronchial asthma. Accordingly the population of the United States would include somewhat over four million asthmatic persons.

In the United States there are approximately 6,000 yearly deaths from bronchial asthma. As presumably all of them occur within the asthmatic group, it follows that the fatality rate for this condition averages 1.5 deaths per 1,000 asthmatic persons. In 1955 bronchial asthma was the cause of death of 6 of the 1,667 asthmatic patients seen at the Mayo Clinic.[8] The excess in the observed fatality rate (4 per 1,000) over the calculated one (1.5 per 1,000) can be attributed to the selective factors inherent in data derived from hospital populations.

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TABLE 3.—*Death Rates for Asthma by Age, Color and Sex, per 100,000 Population. United States, 1958.*[10]

Cause of Death, Color and Sex	Total	Under 1 Year	1-4 Years	5-14 Years	15-24 Years	25-34 Years	35-44 Years	45-54 Years	55-64 Years	65-74 Years	75-84 Years	85 Years and Over
Asthma (241)	2.9	0.8	0.4	0.2	0.3	0.7	1.4	3.5	7.9	14.4	18.7	21.7
Male	4.0	1.0	0.4	0.2	0.2	0.6	1.3	4.1	12.2	23.8	30.4	27.6
Female	1.9	0.6	0.4	0.2	0.5	0.8	1.5	2.9	4.0	6.2	9.7	17.6
White	2.9	0.6	0.3	0.1	0.3	0.5	1.0	3.1	7.9	14.3	19.5	23.5
Male	4.0	0.7	0.3	0.1	0.1	0.4	1.0	3.8	12.2	23.7	31.9	29.9
Female	1.7	0.4	0.3	0.1	0.4	0.5	1.0	2.4	3.8	6.1	9.9	19.0
Nonwhite	3.3	2.2	0.7	0.5	0.9	2.2	4.9	7.1	8.9	16.3	8.9	5.8
Male	3.6	2.9	0.7	0.5	0.6	1.8	4.1	7.0	12.1	24.4	10.9	7.9
Female	3.0	1.5	0.6	0.4	1.1	2.5	5.6	7.1	5.7	8.7	7.1	4.2

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APPENDIX

Geographic Areas: In classifying the population by geographic area of residence, the National Health Survey has used the same grouping of states used by the Bureau of the Census.

Region, Division, and States Included

I. Northeast:
  New England—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.
  Middle Atlantic—New York, New Jersey, Pennsylvania.

II. North Central:
  East North Central—Michigan, Ohio, Illinois, Indiana, Wisconsin.
  West North Central—Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.

III. South:
  South Atlantic—Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.
  East South Central—Kentucky, Tennessee, Alabama, Mississippi.
  West South Central—Arkansas, Louisiana, Oklahoma, Texas.

IV. West:
  Mountain—Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada.
  Pacific—Washington, Oregon, California.

Standard Metropolitan Statistical Areas (SMSA). These areas, as defined by the Bureau of the Census have each a population of two million or more persons. According to the 1950 Decennial Census, the eight largest Standard Metropolitan Statistical Areas were identified as follows:

SMSA and Counties Included

Boston, Massachusetts—Essex County (part), Middlesex County (part), Norfolk County (part), Plymouth County (part), Suffolk County.

New York-Northeastern New Jersey—New York City (includes Bronx, Kings, New York, Queens and Richmond counties), Nassau, Rockland, Suffolk, and Westchester counties, New York; Bergen, Essex, Hudson, Middlesex, Morris, Passaic, Somerset, and Union counties, New Jersey.

Philadelphia, Pennsylvania—Bucks, Chester, Delaware, Montgomery, and Philadelphia counties, Pennsylvania; Burlington, Camden, and Gloucester counties, New Jersey.

Pittsburgh, Pennsylvania—Allegheny, Beaver, Washington, and Westmoreland counties.

Detroit, Michigan—Macomb, Oakland, and Wayne counties.

Chicago, Illinois—Cook, DuPage, Kane, Lake, and Will counties, Illinois; Lake County, Indiana.

Los Angeles, California—Los Angeles and Orange counties.

San Francisco, California—Alameda, Contra Costa, Marin, San Francisco, San Mateo, and Solano counties.

CASE REPORTS

Peripelvic Renal Cysts

MIGUEL ANGEL LLANOS, *M.D.*, Los Angeles

PERIPELVIC RENAL CYST is a rarely reported lesion and one not extensively dealt with in urologic textbooks, but it seems to have distinctive features that can help toward preoperative diagnosis.

Until the time of the present communication there were 33 cases reported in the literature. Adding three cases in the present report and three others that were observed through the courtesy of colleagues[*] brings the total to 39.

The lesion, which is of lymphatic origin, is located in the hilus of the kidney and is intimately associated with the pelvis, calyces and vascular pedicles.

There are two etiologic theories—one that the lesion is congenital and relates to the Wolffian duct, the other that it has its beginning in inflammation. Henthorne[3] cited Obalensky, Przewosky and Albarrán as supporters of the congenital theory. Rivalta[6] referred to the cysts as lymphatic ectasia. He believed that the lymphatic nodes, due to an inflammatory process, become obstructed by thrombi and later dilate to form the cysts.

Henthorne[3] noted signs of inflammation—past or present—in 14 of 20 cases; but he also said that in eight cases there were presumed congenital anomalies and lymphatic ectasia in other organs. Thompson[8] reported infection and obstruction were present in all the cases he observed.

From review of the literature and from the previously mentioned observation of six cases, certain clinical and radiologic features emerge that may be helpful in diagnosis and differentiation.

The age range of patients was from 17 to 74 years, with the greatest incidence in the fifth and sixth decades.

Marion[5] said that peripelvic renal cysts are more common on the left side. In five of the six cases I observed, the lesion was on the left side. The location was stated in only 19 of the 33 previously reported cases: In 12 it was bilateral, in four on the left side and in three on the right.

These cysts can have a single cavity or be multiloculated. They lie around the pelvis, between the elements of the pedicle, and are not surrounded entirely by renal parenchyma. They are lined with endothelium, supported with a thin wall of connective tissue. In about 30 per cent of cases hyaline thrombi are present in the lymphatic trunks.

As a curiosity, Moynihan (cited by Llanos[4]) reported a case of peripelvic renal cysts in the hilus of a horseshoe kidney.

Most observers, Scholl[7] and Henthorne[3] among them, look upon peripelvic renal cysts as incidental findings at operation or autopsy. Yet in the cases here reported, each patient had symptoms severe enough to seek consultation.

Pain in the affected side was the most commonly noted symptom in the literature and in the cases observed. It was present in five of the twelve cases in which symptoms and signs were recorded. In two cases the pain was characteristic of renal colic, and in three a constant dull ache in the renal area. Other symptoms, in the order of frequency, were: "Prostatism" in three cases; elevation of temperature, dysurea and symptoms of cystitis in two cases each; tiredness and vomiting in one case each.

The most frequent signs associated with the disease were high blood pressure in four cases, hematuria in three, decreased renal function on the affected side in two, and palpable kidney and costovertebral angle tenderness to percussion and palpation in one case each.

DIAGNOSIS

Roentgen studies are helpful in diagnosis. In the beginning of the disease, the outline of the pelvis and calyces remains smooth. The main clue is the smooth, delicate elongation and narrowing of the calyces, especially the major ones (Figure 1). The ending at the papilla appears as it does in a normal kidney. The roentgenologic impression is that the elongation has occurred between the pelvis and the parenchyma of the kidney—that is, at the hilus of the organ. The average normal distance between the papilla and the renal capsule is maintained.

In the later stages of the disease, when the cysts have enlarged to more than three centimeters in diameter, the radiographic appearance becomes similar to that of any space-occupying lesion of the kidney, but the cysts are always located between the pelvis and parenchyma (Figures 2, 3 and 4).

Pyelography, either intravenous or by retrograde pyelogram, usually supplies sufficient information

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Presented before the Section on Urology at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

[*] Drs. Elmer Belt, Carl Ebert and Sherman Bruckner.

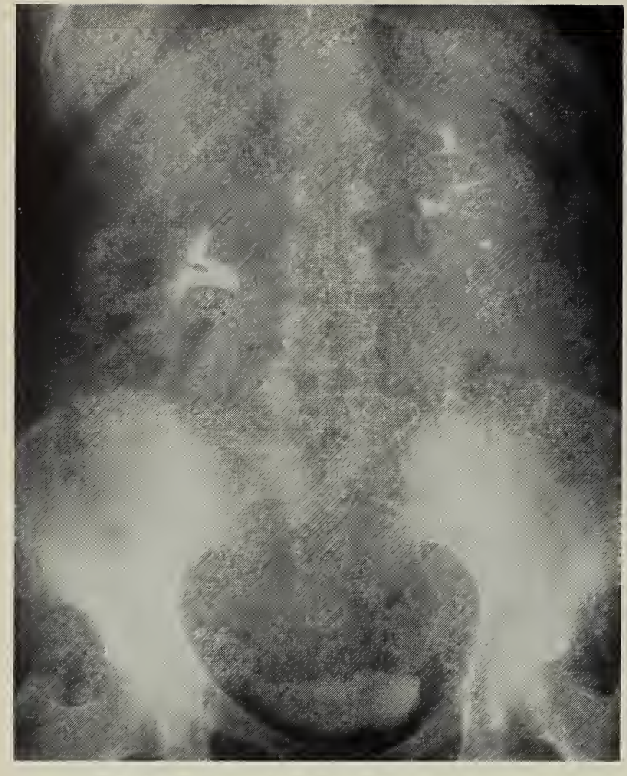

Figure 1 (Case 1).—Intravenous pyelogram. Note elongation and narrowing of major calyces, left kidney. There is clear and distinct impression of a round structure between the upper and middle calyces, and also at the lower pole. Papillae are normal. Distance from papillae to renal capsule is preserved.

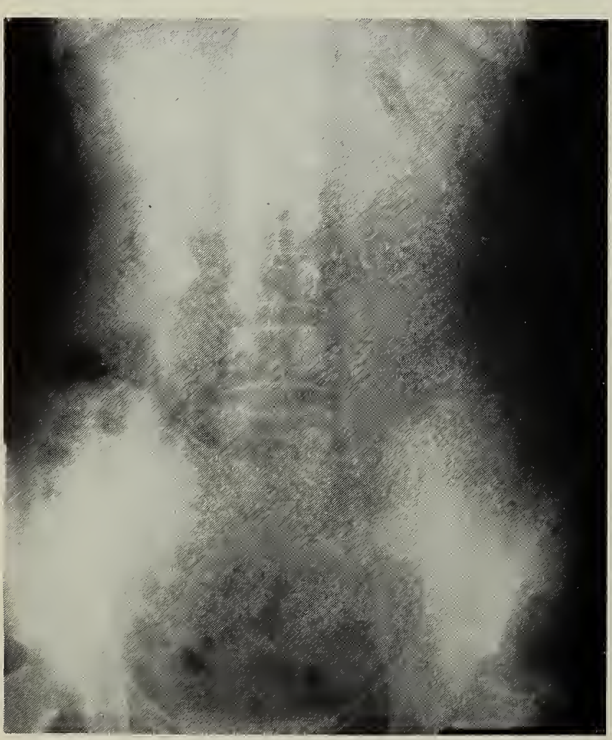

Figure 2 (Case 2).—Intravenous pyelogram. Disease more advanced than in case shown in Figure 1. Characteristic lesion especially in the lower half. Major calyces displaced, elongated by cysts. Papillae are normal. Distance from papillae to renal capsule is preserved.

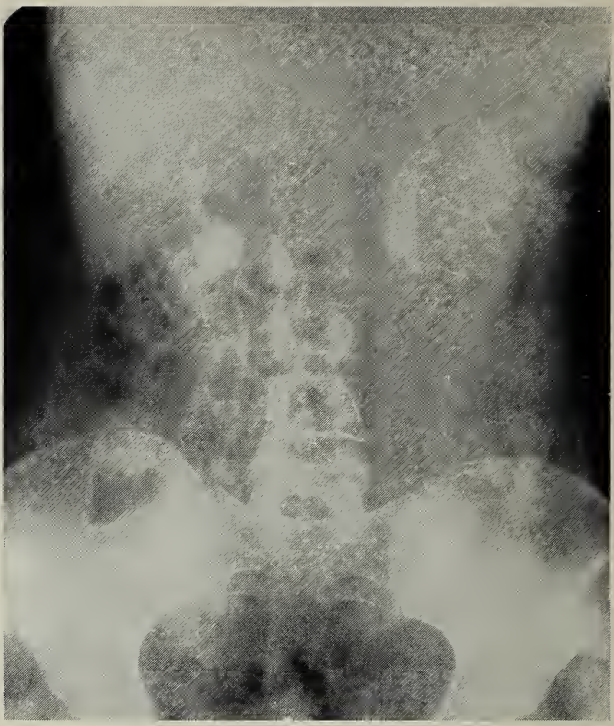

Figure 3 (Case 2).—Same as Figure 2 but with a better filling of pelvis and calyces due to retrograde injection.

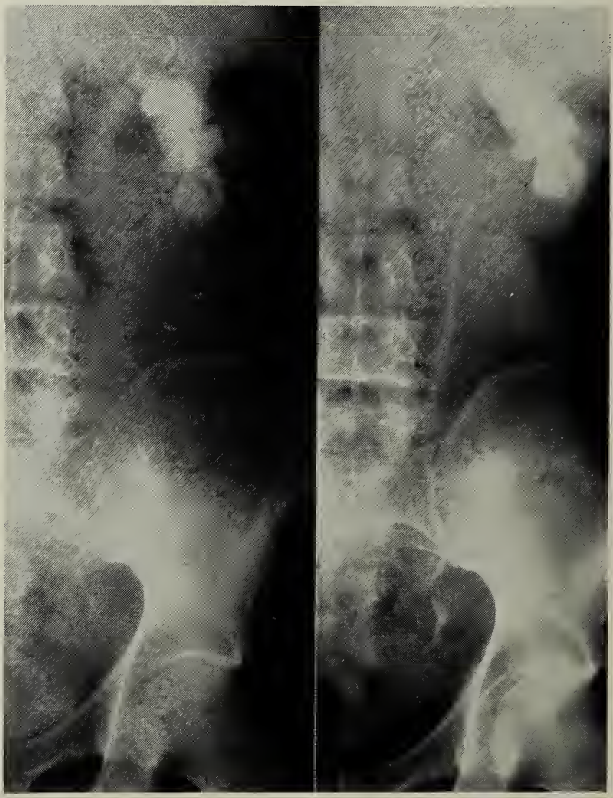

Figure 4 (Case 3).—Left kidney has been rotated laterally and anteriorly by the cysts. Notice also some dilation of pelvis and calyces. In the left frame the lateral half of a round structure can be distinguished pushing the kidney aside. In the right frame the cysts are not clear but narrowing of the ureter, due to external compression by the cysts, is present.

for the diagnosis, although any of the many diagnostic methods used in radiography of the kidney could be employed.

Dubillier and Evans[1] in nephrotomographic study of 117 simple cysts of the renal parenchyma noted seven having the appearance of peripelvic renal cysts. At operation the diagnosis was confirmed. These investigators noted features for differentiating peripelvic renal cysts from cancer and from parenchymal cysts of the kidney: In peripelvic renal cysts, nephrotomography shows absence of vessels in the area of the lesion, while in cancer small vessels or puddling are present. The cysts are not surrounded by opacified renal parenchyma and do not have the radiolucent appearance of parenchymal cysts.

The prognosis is good provided there is no other lesion in the kidney and the functional capacity of the organ has not been destroyed.

TREATMENT

Surgical treatment should be carried out to relieve symptoms referable to the cysts or to the kidney on the affected side, to diminish pressure on the parenchyma and preserve renal function, to rule out carcinomatous degeneration of the cyst (a phenomenon not reported in any of the cases of record) and, if the surgeon is not sure of the diagnosis, to rule out neoplasm. It is important to have as accurate a preoperative diagnosis as possible and to examine the lesion in situ during the operation in order to avoid unnecessary nephrectomy. If it has been determined that the kidney is affected by peripelvic renal cysts, all perinephric tissue must be cleaned from the organ, especially around the hilus. If cancer is present, this procedure is of course contraindicated and total nephrectomy as advocated by Foley[2] should be carried out.

Cysts should be unroofed and as much wall as possible removed. The interior should be examined for malignant degeneration, and the remaining portion of the wall may be treated with chemical cauterization. If malignant degeneration is present, the kidney should be removed, provided the other kidney is normal. If it is not, partial nephrectomy or removal of the tumor with fulguration of the base should be contemplated.

REPORTS OF CASES

Case 1: A woman 62 years of age had dysurea of four days' duration and burning sensation on urination. Upon physical examination the only abnormality noted was blood pressure of 180/120 mm. of mercury. The specific gravity of the urine was 1.015. It was negative for albumin and sugar. The pH was 6.5. It contained 5 to 10 leukocytes per high power field. Upon cystoscopic examination, decided cystitis with numerous patches of petechia were noted. An intravenous urogram (Figure 1) showed delicate elongation and narrowing of the upper and middle calyces of the left kidney. The papillary endings appeared as they would in a normal kidney. The cysts seemed to be situated between the pelvis and the parenchyma in the hilus of the kidney. A preoperative diagnosis of peripelvic renal cysts was confirmed at operation. There were six cysts in the peripelvic region, causing bulging and downward displacement of the pelvis. They were unroofed. When examined three months after operation the patient had no symptoms referable to the urinary tract and the blood pressure was 168/102 mm. of mercury.

Case 2. A 59-year-old woman had pain in the left lumbar area of 12 hours' duration. It had begun as a "gas-like" pain in the left lumbar area, but she had had a bowel movement without relief, and later she vomited and felt chilly.

Questioning elicited that for some time she had urinated frequently, passing small amounts each time, and occasionally had sharp pain centered in the left kidney area and radiating to the left groin. The urine had been "dirty" but no hematuria was noticed.

The oral temperature was 37.8 C. and the blood pressure 142/72 mm. of mercury. Severe left renal pain was noted on palpation and percussion. Intravenous and retrograde pyelograms were interpreted as characteristic of peripelvic renal cysts (Figures 2 and 3). At operation, multiple peripelvic renal cysts were unroofed. Six months after operation the patient had no symptoms referable to urinary tract disease.

Case 3. A 57-year-old man was observed because of urethral discharge. Upon physical examination, blood pressure was noted to be 230/130 mm. of mercury and a complete urological examination then was carried out, including a retrograde pyelogram (Figure 4). Phenosulfonphthalein excretion was 17 per cent in one hour from the right kidney and 4 per cent from the left. The preoperative diagnosis, hydronephrosis with peripelvic renal cysts of the left kidney, was confirmed at operation and it was observed that an aberrant vessel was the cause of hydronephrosis. The patient died of heart disease approximately a year later. Autopsy was not done.

4815 Hollywood Boulevard, Los Angeles 27.

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EDITORIAL

Mental Hygiene

Along with its other problems of a growing population, inadequate water supplies and political confusion, California has assumed a particularly large problem with regard to how best to care for the mentally ill. The question is not a new one but it continues to present new facets.

This particular kind of illness is often of long duration and demanding of skilled and continuous therapy. California as a state has long recognized the underlying symptoms of the problem and has expended billions of dollars in trying to find the solution.

Until the past few years the state followed the nationwide pattern of working to provide so many beds per thousand mentally ill patients. This is fine, provided the beds are properly located in terms of population and provided the skilled professional services to treat that many patients are available.

One of the problems in this method of progression lies in the inability to secure enough trained physicians to take care of the patient load. In this matter, California has had a peculiarly unproductive record. In the first place, there just aren't enough trained psychiatrists to provide the complete and intensive care required by a large number of mentally ill patients. Studies have proved that intensive care, organized and operated as a crash program, will return more mentally ill patients to their homes, improved if not completely cured, than the standard method of providing what professional skills may be available at the moment.

In years past, the California State Department of Mental Hygiene has amply explored the intensive care theory. It has gone much further and has even proposed some legislation which does not appeal to the majority of physicians in the state. It has asked that physicians from other states be made eligible for employment without a California license and with an extended period in which to secure such license. It has adopted in-training programs to teach the techniques of psychiatric treatment to physicians who have no previous formal training in that field.

Despite these measures, the state has repeatedly run up against the fact that the Department of Mental Hygiene does not have enough trained physicians to meet the increasing load of patients thrust upon it.

When the department attempts to trim the load, objections are heard from the counties, many of which seem to have adopted the policy that the old confused person may be labelled mentally ill and shifted to a state hospital for his care. Any attempt to return him to the county, which also has inadequate facilities and personnel, is bound to run into obstructions.

In some states the solution seems to be to build more state hospitals, provide more beds and then attempt to find professional personnel to man the facility. In a state with a growing population, such as California, this process would be endless.

Thus it comes as a most pleasant revelation that the California State Department of Mental Hygiene now is pursuing a course designed to keep as many patients as possible out of state hospitals.

The department got squarely behind the Short-Doyle Act in the Legislature several years ago. This was legislation to provide for state participation in county programs which would set up treatment centers for the mentally ill near their homes and thus keep these patients from being shipped off to state hospitals. This program is working admirably and has proved its effectiveness in relieving the state hospitals of an unwanted and probably unwarranted patient load.

In addition, Short-Doyle has permitted a large number of patients to remain in their home localities, among family and friends and in much better psychological condition to benefit from the available treatment.

On top of this, the department has recently come out with an announced program of close cooperation with private facilities so that the mentally ill patients in a community may receive their needed care at home, where a community and a family familiarity may contribute greatly to the overall course of treatment.

Under this program, and because of the high initial costs of creating mental health facilities, the availability of private accommodations for the mentally ill has now increased to the point where California now has more than 10,000 approved beds in this kind of facility. In 1961 these beds showed an average daily census of about 5,500.

Even more important than the daily bed census is the figure for total admissions to private mental facilities during 1961. The private institutions registered 22,900 patients admitted during the year, compared with 22,300 admitted in the network of state hospitals. Little if any comparison can be made between the private and the state admission figures other than to point to the fact that private beds for the mentally ill are known about and are used.

The Council of the California Medical Association, which has grown accustomed to never-ending increases in budget demands for California state departments, has seen cause to applaud the program of the State Department of Mental Hygiene. The Council sees in this movement a desire to treat the patient for his own best interests and not to reach out for more patients so that a bigger department may be created.

Over the past few years the Council has seen fit to invite the heads of several state departments to attend Council meetings, to present such reports as they wish and to seek such cooperation as the Association may give. The result has been a friendly liaison between the state and the medical profession, one product of which can be seen in this instance. California now budgets more than $120 million annually for mental hygiene. With a growing population this figure could continue to go higher year by year, adding to the tax burden and stifling private resources which might take over a large part of the total need for patient care.

Here is evidence that the state and private sources can act in a cooperative manner to take care of needs that exist. Here is evidence that bureaucracy need not keep growing but that it may shift some of its emphasis to the ready, willing and able hands of private resources. It is to be hoped that this form of cooperation may be expanded and continued, for the benefit of all concerned.

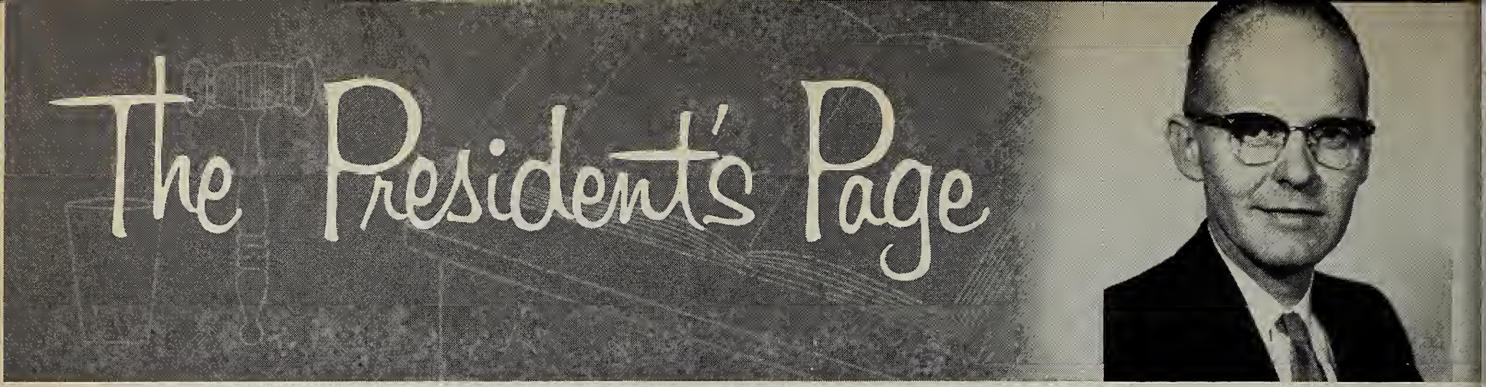
C.M.A.'s First Purpose

When they meet in April, the delegates to the California Medical Association representing the various constituencies that make up the state association will have before them for decision a matter that can have great bearing on our continuing right to self-respect as physicians and on the public attitude toward us. The delegates will be called upon to provide the authority and the structure to carry out a special committee's recommendations for serving the paramount purpose of our organization and the one that best unites us all: "To promote the science and art of medicine, the protection of the public health and the betterment of the medical profession."

Already reviewed and approved in principle by the Council, the proposals are now before that body for final consideration and implementation. Those parts of the recommendations requiring changes in the Constitution and By-Laws will be sent to the House of Delegates.

The recommendations were made by the Council-appointed Ad Hoc Committee on Continuing Education and Scientific Activities of the California Medical Association after more than a year of inquiry, hearings and study. They are important to every physician in the state and to every citizen now and in future.

Excerpts from the committee's report now under consideration are printed on four pages of this issue of California Medicine, beginning on page 211.



The President's Page

Socialized Health—A Tragic British Experiment

"Those who will not learn from history are doomed to repeat it."
—CREDIT LOST

IF YOU READ a recent editorial of the *British Medical Journal,* you were probably startled by the title "A Pretty Ghastly Awful Picture." Lord Taylor made that remark during a debate in Parliament on their National Health Service (NHS). The significance of the remark is missed, however, if you did not know that Lord Taylor is a prominent physician, a leading socialist, who was raised to the House of Lords as a reward for his service in socializing medicine in Britain!

Let us see how some of the architects of government-run medicine feel about their scheme now. His Lordship said the growing shortage of doctors is "a new and desperate situation." Outside the teaching hospitals the NHS has survived only by the importation of some 4,000 foreign doctors. He continued: "I cannot recommend . . . [going] into such hospitals as an emergency case . . . a house officer will . . . treat you, and his experience will be far less than your own practitioner's . . . When he comes, he well could have difficulty understanding what you say." All of this is occurring as Britain's own doctors, with their higher educational and quality standards, are "leaving . . . for other countries."

And on top of all of this has been the devastating recommendation of the usual infallible "Government committees which seem to be symptomatic of the static society which is Britain today," to make a 10 per cent cut in the intake of medical students! What a classic example of government's omnipotence in solving problems! Such a decision in the face of a continuous yearly decline since 1951 in the number of medical students!

Compounded with the crumbling of quality and the flight of ability has been the disintegration of that core of medical practice, the general practitioner, "into wet-nurse to the members of our welfare state . . . His final separation from the life of a hospital and forbidance to see patients there" has torn the heart and soul out of a nation's medical resource.

Medicine, crushed by impact of minutiae of penalties for the offender against the established precedent, loses the capacity to breathe, to experiment, to grow. "We recall," the *British Medical Journal's* editorial says, "the G.P. who was fined by NHS for prescribing insulin for a diabetic in the days before this discovery had reached the ears of the groundlings!"

At long last Britain is beginning to realize the catastrophe that has overtaken its health: Waste instead of efficiency; mediocrity rather than quality; deadly centralization as a substitute for experimentation and flexibility; compulsory government health service instead of voluntary private health programs; government dictated medicine in place of personal physician-patient guided medicine.

Take heed, all of us! America must learn from the mistakes of others, if she does not want to repeat them. Let's make it our job to know of the failure of Britain in Health, to broadcast it to all citizens.

People in Britain are now trying to find freedom again for medical services there. Rarely is freedom recaptured without revolt. Wise men have only one answer: It must not be lost in the first place.

Warren L. Bostick M.D.

Reprints of Dr. Bostick's essay are available from the Public Relations Department of the California Medical Association, 693 Sutter Street, San Francisco 2.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Minutes of the 476th Meeting of the Council, San Francisco, Hilton Inn, January 13, 1962.

The meeting was called to order by Chairman Sherman in the Hilton Inn, San Francisco International Airport, on Saturday, January 13, 1962, at 10:00 a.m.

Roll Call:

Present were President Bostick, President-Elect Wheeler, Speaker Doyle, Vice-Speaker Heron, Editor Wilbur and Councilors MacLaggan, Wilson, Todd, Quinn, O'Neill, Kirchner, O'Connor, Ham, Rogers, Dalton, Davis, Miller, Sherman, Campbell, Morrison, Kaiser, Anderson and Teall. Absent for cause, Secretary Hosmer and Councilor Murray.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Whelan, Clark, Klutch, Tobitt, Doctors Batchelder and Miller, and Mrs. Griffith of C.M.A. staff; Messrs. Hassard and Huber of legal counsel; Messrs. Salisbury and Fraser of the Public Health League of California; county executives Scheuber of Alameda-Contra Costa, Lingerfelt of Fresno, Geisert of Kern, Field of Los Angeles, Baker of Los Angeles, Donovan of Santa Clara, Grove of Monterey, Blankfort of Marin, Bannister of Orange, Brayer of Riverside, Dochterman of Sacramento, Donmyer of San Bernardino, Nute of San Diego, Neick of San Francisco, Thompson of San Joaquin, Wood of San Mateo and Rideout of Butte-Glenn; Dr. Malcolm Merrill of the State Department of Public Health, Dr. Daniel Blain of the State Department of Mental Hygiene; Mrs. Eunice Evans and Lester McDonald of the State Department of Social Welfare; Messrs. Paolini, Heller, Nyron and Walberg of California Physicians' Service; Doctors Gerald Shaw, T. Eric Reynolds, Donald Harrington, Eugene Webb, Eugene Hopp, Dan O. Kilroy, A. F. Kandlbinder, Robert Dennis and others.

1. *Minutes for Approval:*

On motion duly made and seconded, minutes of the 475th Council meeting, held December 9, 1961, were amended and approved.

2. *Membership:*

(a) A report of membership as of January 10, 1962, was presented and ordered filed.

(b) On motion duly made and seconded, five members who had become delinquent were voted reinstatement.

(c) On motion duly made and seconded in each instance, five applicants were voted Associate Membership. These were: Ralph M. S. Barrett, William Holmes Bennett, Roger W. Jelliffe, May M. Leydorf, Los Angeles County; Ruth Anderson, Ventura County.

(d) On motion duly made and seconded in each instance, 14 applicants were voted Retired Membership. These were: Velva V. Brown, Alameda-Contra Costa County; Albert S. Arkush, Melton B. Burns, Edwin Cobb, Joseph Diamondstein, Adalbert Frisch, Roy O. Gilbert, Sutten H. Groff, Morris B. Lerned, Charles F. Sebastian, Margaret A. Van Atta, Cecil B. Van Sciver, Los Angeles County; Thomas A. Card, Riverside County; Ernest A. Daus, Solano County.

WARREN L. BOSTICK, M.D.	President
OMER W. WHEELER, M.D.	President-Elect
JAMES C. DOYLE, M.D.	Speaker
IVAN C. HERON, M.D.	Vice-Speaker
SAMUEL R. SHERMAN, M.D.	Chairman of the Council
RALPH C. TEALL, M.D.	Vice-Chairman of the Council
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(e) On motion duly made and seconded, nine members were voted a reduction of dues because of prolonged illness or postgraduate study.

3. *Letters of Commendation:*

On motion duly made and seconded, it was voted to forward letters of commendation from the President of the Association to the American Farm Bureau Federation, the United States and California Chambers of Commerce, and other organizations for their support of the profession's position on pending federal legislation.

4. *Standing Rules of the Council:*

On motion duly made and seconded, it was voted to amend the Standing Rules of the Council relative to guests at meetings. The amendment would add a new section, as follows:

Guests to be invited to Council meetings shall include (a) Deans of the Schools of Medicine in California and heads of state departments (or their representatives) with which the C.M.A. maintains contact or for which it provides advisory or other services, (b) guests with special presentations to make to the Council, and (c) others.

All guests coming under (b) and (c) above shall be invited to Council meetings only after their names, the subject matter of their presentations and the reasons for a personal appearance (preferably in writing) have been submitted to the Advisory Committee for Emergency Action at least one week before a scheduled meeting and the personal appearance has been approved by this committee.

5. *State Department of Public Health:*

Dr. Malcolm Merrill, State Director of Public Health, reported that Influenza B had definitely been found present in the large number of upper respiratory cases prevalent at this time. He also reported that the committee appointed to implement the hospital regional planning program had been appointed in the Los Angeles area and had already met. A similar committee is being formed in the San Francisco bay area.

6. *State Department of Mental Hygiene:*

Dr. Daniel Blain, State Director of Mental Hygiene, reported on the reliance being placed by his department on private facilities for the care of a large portion of the mental cases. He stated that California maintains 11,000 mental hospital beds, or about 30 per cent of those in the country.

Dr. Blain also discussed the elimination of tuberculosis and mental illness as conditions which could merit federal funds for assistance under Title I of the Social Security law and presented a resolution urging a study of existing laws with a view toward including these illnesses. After discussion it was regularly moved, seconded and voted to refer this suggestion and resolution to the Committee on Government Financed Medical Care, with instructions to confer with other interested committees, for study and recommendation at the next meeting.

7. *State Department of Social Welfare:*

Mrs. Eunice Evans of the State Department of Social Welfare stated that the inauguration of the new Medical Assistance to the Aged program was bound to create problems and asked that the appropriate committees in the county societies cooperate with welfare authorities in seeking answers. She also referred to some abuses in the adoption processes and stated the desire of the department to work with the Association and with the State Bar in this matter.

Mrs. Evans reported on the setting up of organized home care services in social welfare departments as a means of providing care for the aged without need for hospitalization or nursing home occupancy. Dr. Quinn also reported on this service and urged that the county societies cooperate in making the Medical Assistance to the Aged program, including the homemaker services, operate successfully. On motion duly made and seconded, it was voted to make this request of the county societies.

8. *California Physicians' Service:*

Dr. John Morrison, board chairman, reported that C.P.S. membership now stands at 1,029,000 and physician membership at 15,000. He also reported that the board of trustees had authorized expanded activity for California Physicians' Insurance Co., a wholly-owned subsidiary. Dr. Morrison further reported that C.P.S. now has 15 medical consultants in various areas and that their work is beneficial for all parties.

Mr. Etchel Paolini reported on the recent signup of state employees and those of University of California, under which C.P.S. retained its group of state employees already enrolled, and in combination with Blue Cross, gained 21,800 new participants. Among university employees, the Blue Shield-Blue Cross combination (at schedule C) signed 9,748 employees. Mr. Paolini further reported that C.P.S. now has 662 employees and is budgeting 1962 for an anticipated income of $92,000,000 and administrative expenses of 9.9 per cent.

9. *Introduction of Guests:*

The chairman introduced Dr. Eugene Webb as the new president of the San Francisco Medical Society and Dr. Eugene Hopp as a member of the executive committee.

Dr. Davis introduced Joseph Donovan, executive secretary of the Santa Clara County Medical Society, as a candidate for the House of Representatives under District 9, newly-formed district in the county.

10. *Commission on Medical Services:*

Dr. Donald Harrington presented a report of the Commission on Medical Services which covered several areas:

(a) A suggested format and operating procedure for county society mediation committees. On motion duly made and seconded, this section of the report was approved. Dr. Harrington announced that a short meeting of county society mediation committee chairmen would be held immediately following the conference of county society officers on February 18.

(b) A standardized claim form prepared by the Health Insurance Council was presented, with the request for authority for that body to distribute these forms to physicians. A motion was made to approve this distribution under specified conditions but was not voted. On motion duly made and seconded, it was voted to table this matter until the next meeting.

(c) A study of medical marketing areas was proposed, to be carried out by the Bureau of Research and Planning. On motion duly made and seconded, it was voted to approve the transfer of $5,000 of commission funds to the Bureau of Research and Planning for this study.

Dr. Harrington also presented a request of the commission for appointment of a special committee to investigate income levels in connection with fee schedules in connection with California Physicians' Service. On motion duly made and seconded it was voted to approve this request and refer to the Committee on Committees for action. This committee later named the committee as Donald Harrington, chairman, and Doctors Herman Stone, Richard Taw and Homer Pheasant.

In connection with the mediation committees in the commission's report, Dr. Davis asked that the commission keep in mind the suggestion of the American Medical Association for original jurisdiction to be vested in the A.M.A. in disciplinary cases, in order that the A.M.A. delegation may be advised as to California wishes on this question. On motion duly made and seconded it was voted to request the commission to keep this matter on its agenda and confer with the Judicial Council of the A.M.A.

11. *Committee on Legislation:*

Dr. Dan O. Kilroy, chairman of the Committee on Legislation, reported that request had been filed with the Attorney General of California for a title for an initiative measure which would establish a system of state health insurance to be financed by increased state income taxes. Such an initiative would require some 420,000 valid voters' signatures to be placed on the general election ballot. Promoters of the measures are reported as including Upton Sinclair, longtime advocate of increased state services.

12. *Bureau of Research and Planning:*

Dr. Gerald Shaw, chairman of the Bureau of Research and Planning, reported that the bureau is now spending about one-third of its time on studies and reports for various commissions and committees. He also reported that the bureau had authorized a study of Association media in line with earlier decisions of the Council.

13. *Report of the President:*

Dr. Bostick reported on his recent appearance in various cities as a speaker on the program of the Speakers Bureau. He also reported that he and Dr. William Quinn had appeared in New York on a taped television program.

Dr. Bostick also reported further progress in the osteopathic unification program. The school has officially changed its name to California College of Medicine, has applied for accreditation as a medical school and has secured a medical dean, Dr. Benjamin Wells, formerly dean of medicine at University of Arkansas and currently employed by the government.

In behalf of the Committee for Emergency Action, Dr. Bostick reported that Mr. James Bryan had been requested to make a survey of the communications of the Association. On motion duly made and seconded, this procedure was approved.

14. *Commission on Community Health Services:*

Dr. MacLaggan reported on recommended procedures to be used under state regulations requiring the reporting of communicable disease by laboratories. On motion duly made and seconded, these procedures were voted approval.

Dr. MacLaggan also reported that an article on closed chest resuscitation had been prepared for publication in CALIFORNIA MEDICINE. On motion duly made and seconded, this article was voted approval.

Dr. MacLaggan further reported on the distribution of polio inoculation record cards for school students, with a national organization furnishing the cards.

On motion duly made and seconded, approval was voted for a research study on home care programs to be undertaken outside the Association provided the director of the Bureau of Research and Planning approved the objectives and procedures. Approval was also voted for revisions in the guides for county societies in relationships with voluntary health agencies and a report of the Committee on Traffic Safety on the reporting of epilepsy.

15. *Report of the President-Elect:*

Dr. Wheeler reported on a recent meeting with officers of the California Medical Assistants Association and stressed the value of cooperation with this organization.

16. *Finance Committee:*

Dr. Teall presented a report of income and expenditures for the six months ended December 31, 1961, and noted that operations were proceeding with the budget. He also called attention to a January 31 meeting of the committee to consider a 1962-1963 budget and urged that all Councilors heading or working with commissions and committees strive to have a clear-cut program worked out for the fiscal year as a means of arriving at an accurate budget.

17. *Speakers' Bureau:*

Dr. Anderson reported gratifying progress in securing speaking engagements and expressed his belief that the objectives of the bureau are being satisfactorily met at this time.

18. *Public Relations:*

Dr. Todd reported that consideration is being given in some areas to the use of the "Doctors at Work" television series under commercial sponsorship. After discussion it was regularly moved, seconded and voted that commercial sponsorship could be employed where the chairman of the public relations committee, the chairman of the television subcommittee and the executive director could screen and unanimously approve the sponsor, subject to final decision by the Council.

Dr. Todd also reported that the committee had voted to request that the subcommittee on County Society Programs be disbanded and its functions taken over by the staff.

19. *Commission on Cancer:*

Dr. Davis reported that a study of patient needs was being completed by the California Division, American Cancer Society, at this time and would be ready for release soon.

20. *Cancer Quackery Conference:*

Dr. Doyle reported that the date of October 10, 1962, had been established for holding a cancer quackery conference in California, in sponsorship with others and at no cost to the Association.

21. *Legal Department:*

Mr. Hassard reported that he had prepared and distributed to county societies a report on the legal status of medical corporations in California. He pointed out that this subject is complex and no established evidence is as yet available as to the tax deductibility of contributions for the retirement of physicians by such corporations. He also reported that a demurrer would be filed on an amended complaint in the osteopathic case.

22. *Report of Staff:*

Mr. Hassard reported that the growth of the Association in recent years has put a strain on the ability of the headquarters building to accommodate all activities. He urged that plans for prospective future programs be conditioned on space needs.

23. *Narcotics Exhibit:*

A request from a member for funds to construct an exhibit for the education of physicians in the schemes of narcotic addicts and peddlers to secure drugs from physicians was presented. It was regularly moved, seconded and voted to refer this to the Committee on Dangerous Drugs and the Finance Committee for review and report at the next meeting.

24. *Medical Assistance to the Aged:*

A resolution from the county society relative to professional allowances for services under the Medical Assistance to the Aged program was presented and, with amendments, referred to the Committee for Emergency Action.

25. *California Medical Assistants Association:*

Consideration was given to requests from Steward H. Smith, Chairman of the Advisory Committee to C.M.A.A., that (1) the committee name be changed to C.M.A.-Liaison Committee to the C.M.A.A., (2) that the committee be placed under the Commission and Committee structure, preferably related to Public Relations, and (3) that authority be granted for a letter to be sent to medical societies having M.A.A. chapters relative to the functioning of local advisory committees. On motion duly made and seconded, the first two suggestions were referred to the Committee on Committees for review and recommendations and the third item tabled until the next Council meeting.

Adjournment:

Coming Council meeting dates were set for February 16 at Los Angeles, March 17 and April 14 at San Francisco. There being no further business to come before it, the meeting was adjourned at 5:00 p.m.

Samuel R. Sherman, *Chairman*
John Hunton, *Acting Secretary*

Continuing Education and Scientific Activities

Some Abstracts of the Report of the C.M.A. Ad Hoc Committee on Continuing Education and Scientific Activities, Appointed by the Council, September 4, 1959.

The report from which the material here presented was abstracted was approved in principle by the Council and is now being studied as to detail by several committees of the C.M.A. and must be acted upon by the Council and the House of Delegates before final implementation.

FROM ITS INCEPTION in 1856 until the period of World War II and shortly thereafter the C.M.A. was the one statewide medical organization with a primary interest in scientific activities. During the war and thereafter, because of a number of factors, it became necessary for the C.M.A. to apply itself more and more to socioeconomic problems and interest waned in scientific affairs, particularly at the Annual Scientific Sessions. The important factors leading to this change included the threat of compulsory health insurance in California, the rapid growth of voluntary health and closed panel plans, the increasing role of state and national government agencies in medical care of veterans, of indigents and needy persons, of crippled children, of dependents of military personnel, of disabled persons requiring rehabilitation, and the like.

At the same time, there has been a very rapid growth in the number of physicians in California, a tremendous growth of specialization, development and flowering of specialty boards, and a resulting inevitable growth of special medical societies which have rapidly taken over much of the scientific interest of physicians. Furthermore, the rapid expansion by the medical schools of postgraduate courses and instruction for physicians returning from the war mushroomed to unprecedented and unexpected proportions, to be expanded further by the development of seminars, conferences, and meetings by hospital groups, by local and statewide special medical societies, by voluntary health organizations and by the pharmaceutical industry. The interest and time of practicing physicians was further taken up by the requirement of the Joint Commission on Accreditation of Hospitals for attendance at frequent hospital departmental and staff meetings.

These were the major developments leading to the fragmentation of the scientific interests and activities of physicians. Inevitably the major interests of the Council and of the House of Delegates and the large share of the budget of the Association were directed toward essential socioeconomic affairs. Continuation of such fragmentation may have disastrous effects upon the medical profession; in fact, it might lead to the development of a number of "independent" medical professions (surgeons, internists, generalists, etc.). The separation of nursing from the medical profession in objectives, in education, in interests, in the hospital administrative structure and in socioeconomic and legislative affairs is a case in point and should be carefully studied and considered by all physicians.

The C.M.A. has occupied a unique position in medical legislation in California. Through C.P.S. and by strong support of voluntary health insurance as well as through an aggressive approach in cooperation with many government agencies in established government health care plans, it has assumed a position of strength in socioeconomic affairs. To maintain these positions and at the same time to assume a position of high scientific order in the eyes of its members and of the public, the C.M.A. must show equal initiative, imagination and effectiveness in the scientific activities it undertakes. Fragmentation leads to weakness and fragmentation of scientific interests leads inevitably to fragmentation of socioeconomic and legislative interests. The surgeon, the internist or the general practitioner who looks to his specialty organization for scientific nurture will soon look to it for, and expect of it, nurture in socioeconomic and legislative affairs. The C.M.A. cannot continue to occupy the position of importance it now holds unless at the same time it commands the scientific respect of its constituents and the public. Interest in scientific medicine is the one universal compelling interest among physicians. It is the one great and adhesive force in this widely diversified profession. Similarly the C.M.A. is the one great medical organization to which all physicians in California may rally for scientific and other purposes.

In the past few years it has become increasingly evident that the scientific and educational activities of the C.M.A. needed study, stimulation and perhaps reorientation. Because of the Association's rapid growth and diversified activities, the organizational and administrative aspects of the C.M.A. were studied at the request of the Council by Robert Heller & Associates, whose findings and suggestions were reported in December 1957. Many of the suggestions have been implemented and have strengthened the C.M.A. For obvious reasons such a lay group could have touched only lightly on the scientific and educational activities of the C.M.A. Consequently the Council considered it wise to appoint a committee of the C.M.A. to study these activities, to carefully consider all aspects of them and to make recommendations to the Council for its consideration. This report is the result of that committee's activities.

Following is a list of members of the committee:

Donald A. Charnock, M.D., Los Angeles; Past President, California Medical Association.
Werner F. Hoyt, M.D., Mount Shasta; Chairman, Bureau of Research and Planning, C.M.A.
William P. Longmire, Jr., M.D., Department of Surgery, University of California, Los Angeles.
Clayton G. Loosli, M.D., Dean, School of Medicine, University of Southern California.
G. E. Norwood, M.D., Chairman, Division of Postgraduate Medicine,* Loma Linda University.
Lowell A. Rantz, M.D., Associate Dean, School of Medicine, Stanford University.
John B. deC. M. Saunders, M.D., Dean, School of Medicine, University of California, San Francisco.
Joseph W. Telford, M.D., San Diego.
Dwight L. Wilbur, M.D., San Francisco, *Chairman.*
Walter E. Batchelder, M.D., Staff Coordinator, C.M.A.

THE ACTIVITIES OF THE COMMITTEE

The members of the Committee have learned much from the proceedings and deliberations of its meetings. Many witnesses similarly have expressed interest and changes in viewpoint after participating in the committee's activities. The fact that its meetings spanned a period of 15 months indicates that the important recommendations of the committee were not hastily made but were arrived at after much thought and consideration. The committee recognizes that to implement some of its recommendations will require amendments to the Constitution and By-Laws of the Association.

RECOMMENDATIONS

THE SCIENTIFIC BOARD

The most important recommendation of the committee is the establishment of a Scientific Board. Some explanation of the recommendation concerning it is in order.

It was obvious that great advantage lay in grouping all the scientific and educational activities and responsibilities of the C.M.A. in a single organizational unit responsible to the Council and the House of Delegates.

In essence, this board would be an effective organizational structure within the Scientific Assembly.

Because such a unit would include two currently existing commissions (Commissions on Medical Education and on Cancer) and their respective important committees as well as new committees, it seemed clear to the committee that a new organizational unit was imperative and the term *Scientific Board* was selected to avoid confusion with the Council, commissions, committees and the Scientific Assembly.

Size of and Representation on the Scientific Board

It was clear that, to be representative of the scientific activities of the sections of the C.M.A. each scientific section of the C.M.A. should have representation on the board (18 members). It seemed advisable to the committee to add to the board an equal number of members-at-large without identical representation as to special interest of each of the scientific sections but representation in broad categories of interest (i.e., internal medicine, surgery, general practice, obstetrics and gynecology, pediatrics, and neurology and psychiatry). Each such broad category would permit the appointment to the board of individuals with general or limited special interests and abilities as the requirements of the board and its committees demanded. It would permit also the appointment of members of the C.M.A. whose primary interests were in medical education.

The number of members-at-large was made 18, equal to the number of section representatives, to permit appointment of a sufficient number of members of the C.M.A. of scientific and educational stature, with diversified interests and serving as representatives of varying groups, to meet the needs not only of the board itself, but in particular of its committees. Obviously representatives of scientific sections alone would not meet all the needs of the board or of its committees.

Selection of 18 members-at-large establishes an important new principle of representation in the C.M.A. This is the election to the Scientific Board of members of the C.M.A. nominated by scientific organizations in California other than the C.M.A. The organizations selected would be statewide or local divisions of national organizations or important groups in the western United States or California, such as the American College of Physicians, American College of Surgeons, California Academy of General Practice, American College of Obstetrics and Gynecology, etc. The implementation of this principle should be a very effective means of lessening the fragmentation of the profession. It should draw closer together the scientific and educational activities of the C.M.A. and these special medical groups and societies, it should stimulate interest in the C.M.A. on the part of these other organizations, and it should be a factor in unification of the profession.

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*Resigned from this position during his tenure on this committee.

From the standpoint of the C.M.A., this plan has essential safeguards, for the organizations making nominations must be selected and approved by the Scientific Board and by the Council and the elections from the nominees are to be made by the Scientific Board with final approval by the Council.

Representation in the House of Delegates and the Council

If the C.M.A. is to maintain its posture as a scientific organization, there must be in its governing bodies representatives selected not on a geographic basis only, but on the basis of their scientific and educational knowledge, interests and abilities. For this reason it is clear that the members of the Scientific Board should sit in the House of Delegates. They would be, in essence, representatives of the Scientific Assembly in this governing body. This principle long has been followed in the House of Delegates of the A.M.A., in which delegates from the scientific section sit as members of the House. Experience has shown them to be very useful members of that House. The incorporation of the 18 members-at-large in the House of Delegates of the C.M.A. would greatly strengthen the ties between outstanding medical scientific organizations in this state and the C.M.A. and would establish an important new and unique principle in representation in the House. To include in the House of Delegates half of the members of the Scientific Board (those from the scientific sections) and not the remainder of the board (members-at-large) would be unwise and improper.

If, as the committee believes, this representation is sound in principle, the mere fact that it would add 36 members to a House of Delegates already overburdened by numbers should not be used as an effective argument against accepting it. What should be maintained is the principle, and what should be changed is the total number of members of the House already too large for efficient action, and now much larger than the House of Delegates of the A.M.A.

The committee is strongly of the opinion that one member of the Scientific Board should serve as a member of the Council and that the chairman of the board should be an ex-officio member of the Council. Such representation has the great advantage of placing on the Council a member of the C.M.A. who is selected for his scientific and educational knowledge and ability. Such a relationship should be very useful to the Council and give the Scientific Board knowledge of C.M.A. activities at the Council level. It would at once strengthen all the activities of the C.M.A. Appointment of the chairman of the Scientific Board as an ex-officio member of the Council would also strengthen the ties of communication between these two groups without adding too much burden to the heavy duties of the chairman of the Scientific Board.

Some Important New C.M.A. Activities Resulting from the Scientific Board

Important new C.M.A. activities resulting from functioning of the Scientific Board include:

1. Coordination of all scientific and educational activities under one group—the Scientific Board.
2. Establishment of an executive committee of the Scientific Board for coordination of these activities between Annual Sessions of the Scientific Board.
3. Enlarging the activities and responsibilities of the present Committee on Postgraduate Activities into one on Continuing Medical Education.
4. Enlarging the activities and responsibilities of the present Committee on Scientific Work in a Committee on Scientific Assemblies.
5. Establishment of a foundation for the collection and distribution of funds for continuing medical education in California.
6. Establishment of a Committee on Scientific Information.

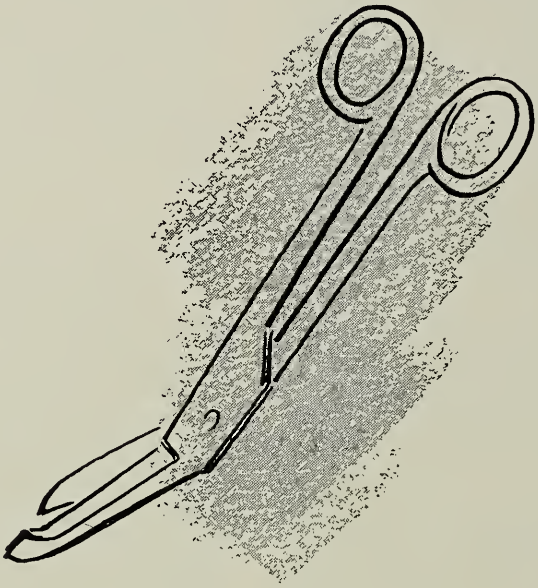
The Committee on Scientific Information

The C.M.A. should be the leading source of medical information in California. This position is now divided among a host of persons and organizations, including faculties of medical schools, individual physicians of great stature and experience, departments of public health, voluntary health agencies, special medical organizations and the like. If a Committee on Scientific Information of the C.M.A. composed of important and informed members of the C.M.A. served as a source of scientific medical information for the members of the Association and for the public, it would greatly increase the stature of the C.M.A. Sound reliable information regarding many aspects of medical practice and medical science should be presented to the public by the C.M.A. through this committee. Innumerable subjects, including the use of live poliomyelitis vaccine, radiation hazards, diet and heart disease, cancer, tuberculosis, antibiotics, and steroid drugs are of great interest and importance to the public which welcomes authentic information concerning them. Such a committee properly performing its function could become the most important and useful scientific and educational activity of the C.M.A.

THE IMPORTANCE TO THE C.M.A. OF EDUCATIONAL AND SCIENTIFIC ACTIVITIES

It is common knowledge that most people think very highly of their physicians, but many do not think highly of organizations of physicians, such as the C.M.A. and A.M.A. Why should the public's idea of individual physicians be so good and its view of medical organizations so unsettled or unsatisfactory? The answer is simple. In relation to the sick the primary interest of a physician is in the rendering of a service in the care of his patient. The primary interest of medical organizations, as the public sees them, all too often appears to be only in the socioeconomics of medicine and not, as it should be, in how good, sound medicine and medical care can be rendered and made available for all the people. There is no more important way to improve the public relations and public's ideas of medical organizations, and specifically of the C.M.A., than to raise the scientific and educational stature of this organization and of its members and to keep the public informed about developments in medical science, in medical care and in what physicians can accomplish in the prevention, alleviation and cure of disease.

At the level of the A.M.A., the C.M.A. has long been considered the leader in matters pertaining to socioeconomic problems, and it is the anticipation of this committee that adoption of its recommendations will place the CM.A. in a position of leadership in scientific and educational activities among state medical associations. Without this leadership among medical organizations and the scientific prestige that goes with it, the C.M.A. may well become a completely ineffectual organization.



No. 6*

"Minor" Help in Emergencies

FACED WITH THE PROBLEM of a minor with an acute traumatic injury or other condition requiring emergency treatment, a physician is often frustrated, and valuable time may be lost in locating the parents to obtain operative consent. He finds himself torn between wishing to render the best treatment possible and the medical-legal implications of failing to obtain a proper signed consent from the parents.

Recent changes in the California law will be of assistance in some of these situations. While these legal changes do not resolve the entire problem, they will effect some reduction of its frequency.

In essence, *these changes allow a legally married minor, or a minor on active duty with the U. S. Armed Services, to furnish his own consent to operation.* This eliminates in these particular instances the need to seek parental consent. The following are the quoted sections:

> *Civil Code 25.6—Notwithstanding any other provision of the law, any minor who has contracted a lawful marriage may give consent to the furnishing of hospital, medical and surgical care to such minor, and such consent shall not be subject to disaffirmance because of minority. The consent of the parent, or parents, of such a person shall not be necessary in order to authorize hospital, medical and surgical care. For the purposes of this section only, subsequent judgment of annulment of such marriage or judgment of divorce, shall not deprive such person of his adult status once obtained. (Added by Stats. 1961 CH 1407 No. 1).*
>
> *25.7—Notwithstanding any other provision of the law, any minor who is on active duty with any of the Armed Forces of the United States of America, may give consent to the furnishing of hospital, medical and surgical care to such minor and such consent shall not be subject to disaffirmance because of minority. The consent of the parent or parents of such person shall not be necessary in order to authorize hospital, medical and surgical care. (Added by Stats. 1961 CH 1407 No. 2).*

The committee hopes that dissemination of this information will be of assistance to the members of the Association.

Prepared by the
COMMITTEE ON OCCUPATIONAL HEALTH
CALIFORNIA MEDICAL ASSOCIATION

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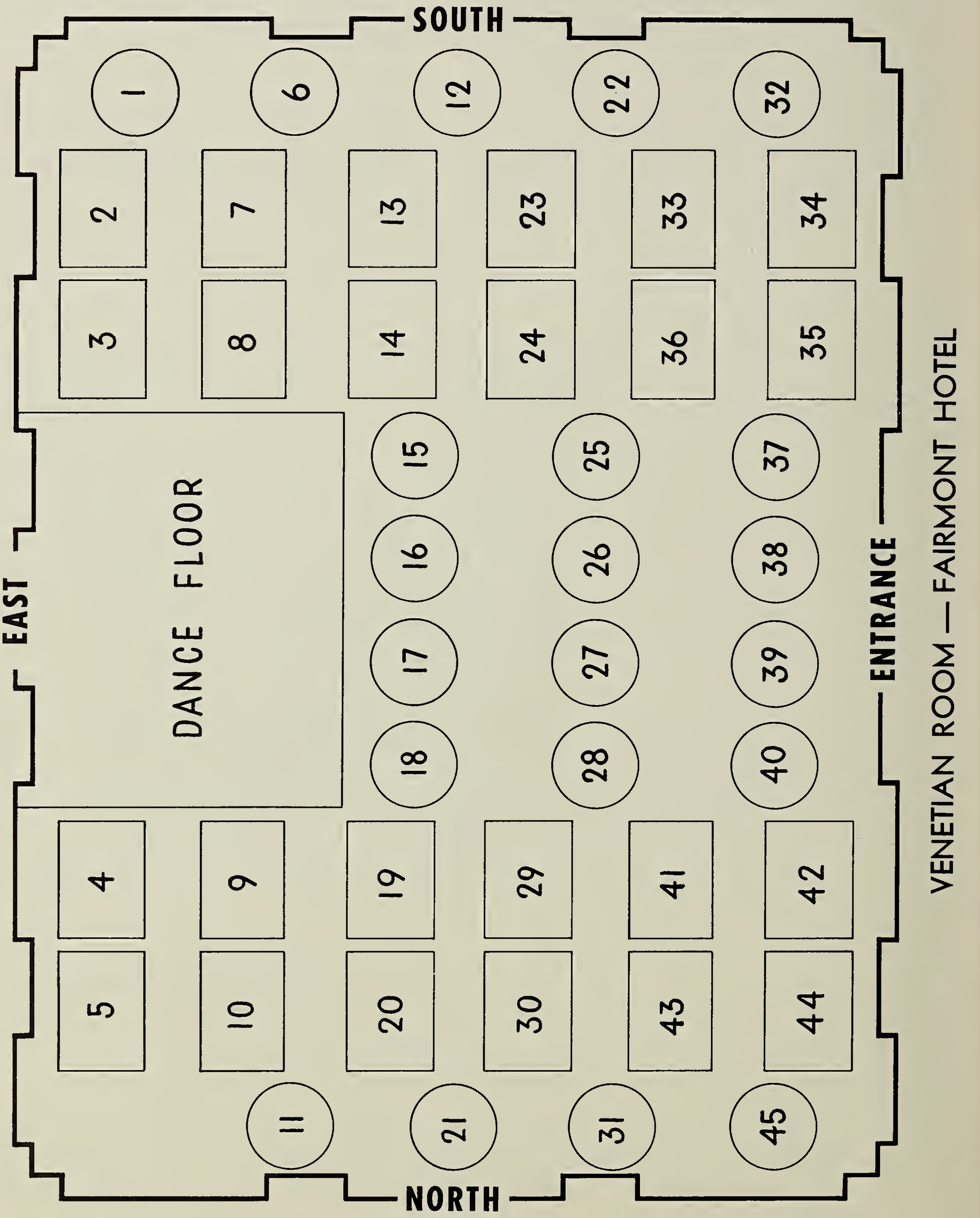
*This is the sixth of a series of articles prepared by the Committee on Occupational Health.

NEXT MONTH: **"RELEASE FOR WORK"**

PRESIDENTS'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Choose a location for your table from the floor plan above.
All tables seat 10 persons.

DINNER-DANCE

Presidents' Annual Reception: Crystal and Fountain Rooms, 7 to 8 p.m.

Sunday, April 15, 8 p.m., Venetian Room, Fairmont Hotel

ENTERTAINMENT: **PEARL BAILEY**

Dancing to Ernie Heckscher

SQUAB CHICKEN DINNER

Cost: $15.00 per person, including Reception, tax, tip and cover

Formal Dress Optional

* * *

ONLY 450 TICKETS AVAILABLE

Your tickets will be held for you at the California Medical Association's Main Registration Desk, located in the Main Lobby of the Fairmont Hotel. A receipt for your check will be sent to you. Please present this receipt at the Registration Desk for your ticket.

Tickets may be picked up at any time between 9 a.m. and 5 p.m. on Saturday or Sunday, April 14 or 15. Table requests for large parties should be sent in one envelope.

Mrs. Tom Fullenlove
110 El Verano Way, San Francisco 27, California

Enclosed is my check for $______. Please send me______ticket(s) to the PRESIDENTS' DINNER-DANCE, Sunday, April 15, 1962.

Table Choice______ ______ ______or assign next best available______.
(Number) 1st 2nd 3rd

NAME______________________________

ADDRESS______________________________

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MAKE CHECKS PAYABLE TO THE CALIFORNIA MEDICAL ASSOCIATION

APPLICATION FOR HOTEL ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association,** April 15-18, 1962, San Francisco, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, your chance of securing accommodations of your choice will be better if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

All Reservations must be made through the C.M.A. Housing Bureau

DEADLINE: MARCH 25, 1962

Ninety-first Annual Session
CALIFORNIA MEDICAL ASSOCIATION
San Francisco, California
APRIL 15*-18, 1962

HOTEL ROOM RATES†

	Single	Twin Beds	Suites
MARK HOPKINS* (HEADQUARTERS) California and Mason	18.00-22.00	22.00-26.00	35.00-110.00
FAIRMONT California and Mason	17.00-24.00	21.00-28.00	40.00- 96.00
FAIRMONT TOWER California and Mason	26.00-31.00	30.00-36.00	from 65.00
HUNTINGTON 1075 California	14.00-20.00	15.00-25.00	40.00- 50.00
SHERATON-PALACE Market at New Montgomery	9.85-15.00	13.85-19.00	25.00- 75.00
ST. FRANCIS Powell and Geary	12.00-24.00	15.00-27.00	30.00- 55.00
SIR FRANCIS DRAKE Sutter and Powell	12.00-17.00	14.00-22.00	34.00- 52.00
JACK TAR Van Ness and Geary	14.00-24.00	16.00-24.00	32.00- 54.00

***April 14: House of Delegates will start with evening meeting Saturday, April 14, at the Mark Hopkins Hotel; all Scientific Sessions and Exhibits will be at the Fairmont Hotel.**

†The above quoted rates are existing rates but are subject to any change which may be made in the future.

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CALIFORNIA MEDICAL ASSOCIATION—Housing Bureau
693 Sutter Street
San Francisco 2, California

Please reserve the following accommodations for the 91st Annual Session of the California Medical Association, in San Francisco, April 15-18, 1962. (House of Delegates members: First meeting of House begins Saturday afternoon, April 14, Mark Hopkins Hotel.)

Single Room $.................... Twin-Bedded Room $....................

Small Suite $.................... Large Suite $.................... Other Type of Room $....................

First Choice Hotel.................... Second Choice Hotel....................

ARRIVING AT HOTEL (date):....................Hour:..........A.M..........P.M.

Leaving (date) ....Hour:..........A.M..........P.M.

Hotel reservations will be held until 6:00 p.m., unless otherwise notified.

THE NAME OF EACH HOTEL GUEST MUST BE LISTED. Therefore, please include the names of both persons for each twin-bedded room requested. Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

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Individual Requesting Reservations—Please print or type: Officer?.......... Delegate?.......... Alternate?..........

Name.. County..

Address.. City and State..

12th ANNUAL

REGIONAL POSTGRADUATE INSTITUTE

NORTH COAST COUNTIES

Presented by Stanford University School of Medicine, Lowell A. Rantz, M.D., Associate Dean and Director, Postgraduate Programs, and California Medical Association Committee on Postgraduate Activities.

Hoberg's Resort — Lake County

March 29 and 30, 1962

PROGRAM

THURSDAY, MARCH 29

Morning Session

9:00-9:30—**New Horizons in the Radiotherapy of Malignant Disease**—Malcolm A. Bagshaw, M.D.

9:30-10:00—**The Theoretical Basis for Present Day Cancer Chemotherapy**—Saul A. Rosenberg, M.D.

10:00-10:30—**Modern Trends in Surgical Treatment of Cancer. Recent Advances in Perfusion and Infusion Technology**—Thomas S. Nelsen, M.D.

10:45-12:00—**Two Panel Discussions** (you may go to the one of your choice).

PANEL A: **The Interdisciplinary Approach to the Patient with Malignancy**—Malcolm A. Bagshaw, M.D., Moderator; Thomas S. Nelsen, M.D.; Saul A. Rosenberg, M.D.; Harold J. Simon, M.D., Ph.D.

PANEL B: **The Child Who Fails to Thrive**—Norman Kretchmer, M.D., Moderator; Sumner J. Yaffe, M.D.; Charles E. Peck, M.D., Santa Rosa; George P. Rostel, M.D., Santa Rosa.

Afternoon Session

2:00-2:45—**Specific Metabolic Disorders Associated with Mental Retardation**—Norman Kretchmer, M.D.

2:45-3:30—**Clinical Aspects of Mental Retardation**—David A. Hamburg, M.D.

3:45-5:00—**Two Panel Discussions** (you may go to one of your choice).

PANEL A: **Mental Retardation**—Norman Kretchmer, M.D., Moderator; David A. Hamburg, M.D.; Sumner J. Yaffe, M.D.

PANEL B: **Diagnosis and Treatment of Diseases of the Liver and Spleen**—Guest Speaker from U.C.L.A. School of Medicine, Sherman M. Mellinkoff, M.D., Moderator; Harry A. Oberhelman, M.D.; Saul A. Rosenberg, M.D.; Harold J. Simon, M.D.

FRIDAY, MARCH 30

Morning Session

9:00-9:45—**The New Penicillins**—Harold J. Simon, M.D., Ph.D.

9:45-10:30—**Pyelonephritis**—Lowell A. Rantz, M.D.

10:45-12:00—**Two Panel Discussions** (you may go to one of your choice).

PANEL A: **Management of Serious Infections**—Lowell A. Rantz, M.D., Moderator; Thomas S. Nelsen, M.D.; Saul A. Rosenberg, M.D.; Harold J. Simon, M.D.

PANEL B: **Medical and Surgical Treatment of Peptic Ulcer**—Harry A. Oberhelman, M.D., Moderator; Malcolm A. Bagshaw, M.D.; David A. Hamburg, M.D.; Sherman M. Mellinkoff, M.D.

Afternoon Session

2:00-2:45—**Malabsorption Syndromes**—Sherman M. Mellinkoff, M.D.

2:45-3:30—**Pancreatitis**—Harry A. Oberhelman, M.D.

3:45-5:00—**Two Panel Discussions** (you may go to one of your choice).

PANEL A: **Advances in Diagnosis of Gastrointestinal Disease**—Thomas S. Nelsen, M.D., Moderator; Malcolm A. Bagshaw, M.D.; Sherman M. Mellinkoff, M.D.; Harry A. Oberhelman, M.D.

PANEL B: **Medical Disease of the Kidney**—Lowell A. Rantz, M.D., Moderator; Sumner J. Yaffe, M.D.; John Wuest, M.D., Santa Rosa; George M. Firestone, M.D., Santa Rosa.

HOST: Sonoma County Medical Society . . . **REGIONAL CHAIRMAN:** Lucius L. Button, M.D., 1102 Montgomery Drive, Santa Rosa. **INSTITUTE FEE:** $15.00. For additional information contact Postgraduate Activities, California Medical Association, 693 Sutter Street, San Francisco 2. **ALL California Medical Association Members and their families are cordially invited to attend.**

In Memoriam

Samuel J. McClendon

Dr. Samuel J. McClendon, San Diego's first practicing pediatrician and a former president of the California Medical Association who is widely known for his 35 years of service to the medical profession he loved, died unexpectedly February 3, 1962, in San Diego at the age of 67.

"Doctor Sam," as he was affectionately called by many of his friends and colleagues, was president of the San Diego County Medical Society in 1937, president of the California Medical Association 1946-47 and a California delegate to the American Medical Association the past 18 years.

He was a member of the first Board of Trustees of the California Physicians' Service and served as a member of the State Board of Health from 1943 through 1958. The local, state and national medical committees and commissions on which he served and the many service and fraternal organizations with which he was affiliated are far too many to enumerate.

Dr. McClendon served as president of the San Diego County Tuberculosis and Health Association in 1950-1951, president of the California Heart Association in 1947-49 and president of the San Diego County Heart Association in 1953-54. He had been a member of the Board of Directors of the San Diego Society for Crippled Children for 18 years.

"Doctor Sam" was instrumental in the establishment and operation of two of San Diego's outstanding hospitals. They are the Donald N. Sharp Memorial Community Hospital, where he was first chief of staff (and when he died was chief of staff, emeritus) and Children's Hospital, where he was chief of staff at the time of his death.

At its annual meeting last November, the San Diego County Medical Society presented a plaque to Dr. McClendon honoring him for "35 years of service to the medical profession." The San Diego Chamber of Commerce adopted and published a resolution the same month lauding "Dr. Sam," a former chamber director, as "the type of exemplary citizen which has made San Diego a modern and progressive community."

Funeral services were held February 7, 1962, in St. Paul's Episcopal Church, San Diego, with several C.M.A. and A.M.A. past presidents serving as pallbearers and with the church filled with colleagues, patients, and business and civic leaders who had known "Dr. Sam" as a physician and friend. Entombment was in Cypress View Mausoleum.

Dr. McClendon is gone but his many friends and colleagues will have fond memories of him always. His death leaves a great void in the medical profession, a profession which he served unstintingly so long and so well.

Francis E. West, M.D.

Anderson, James G., Petaluma. Died January 14, 1962, in Petaluma, aged 75. Graduate of the College of Physicians and Surgeons, San Francisco, 1909. Licensed in California in 1910. Doctor Anderson was a member of the Sonoma County Medical Society.

⁂

Bachhuber, Carl A., Los Angeles. Died January 21, 1962, in Los Angeles, aged 67, of arteriosclerotic heart disease. Graduate of Northwestern University Medical School, Chicago, Illinois, 1920. Licensed in California in 1920. Doctor Bachhuber was a member of the Los Angeles County Medical Association.

⁂

Bachrach, Emil, Imola. Died January 17, 1962, in Napa, aged 69. Graduate of Medizinische Fakultät der Universität, Wien, Austria, 1919. Licensed in California in 1943. Doctor Bachrach was a member of the Napa County Medical Society.

⁂

Brazell, Edward H., Sacramento. Died July 16, 1961, in Sacramento, aged 43, of acute leukemia. Graduate of the University of Vermont College of Medicine, Burlington, 1953. Licensed in California in 1958. Doctor Brazell was a member of the Sacramento County Medical Society.

⁂

Cartwright, Eakle Wesley, Pasadena. Died January 31, 1962, in Altadena, of an acute coronary. Graduate of the University of Pennsylvania School of Medicine, Philadelphia, 1926. Licensed in California in 1928. Doctor Cartwright was a member of the Los Angeles County Medical Association.

⁂

Cassidy, William Adrian, San Martin. Died January 13, 1962, aged 56. Graduate of the University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1935. Licensed in California in 1953. Doctor Cassidy was a member of the Santa Clara County Medical Society.

⁂

Eidenmuller, William C., Jr., San Francisco. Died January 31, 1962, in San Francisco, aged 80. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1906. Licensed in California in 1906. Doctor Eidenmuller was a member of the San Francisco Medical Society.

⁂

Fox, Daniel Scott, Claremont. Died December 25, 1961, in Pomona, aged 73, of bronchial pneumonia. Graduate of Stanford University School of Medicine, Palo Alto-San Francisco, 1930. Licensed in California in 1930. Doctor Fox was a member of the Los Angeles County Medical Association.

Knight, Louise Caroline, San Francisco. Died November 14, 1961. in San Francisco, aged 68, of bronchopneumonia and carcinoma. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1928. Licensed in California in 1928. Doctor Knight was a member of the San Francisco Medical Society.

✣

Lager, Eddie Henry, Los Angeles. Died January 28, 1962, at Green Acres Lodge, aged 63, of a stroke. Graduate of the College of Medical Evangelists School of Medicine, Loma Linda-Los Angeles, 1927. Licensed in California in 1927. Doctor Lager was a member of the Los Angeles County Medical Association.

✣

Lavine, Bernard, Los Angeles. Died January 31, 1962, in Los Angeles, aged 57, of carcinoma. Graduate of the University of Toronto Faculty of Medicine, Ontario, Canada, 1930. Licensed in California in 1931. Doctor Lavine was a member of the Los Angeles County Medical Association.

✣

McClendon, Sam J., San Diego. Died February 3, 1962, in San Diego, aged 68, of heart disease. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1924. Licensed in California in 1925. Doctor McClendon was a member of the San Diego County Medical Society.

Milo, Henry William (H. Wm.), Vallejo. Died January 22, 1962, in Vallejo, aged 66. Graduate of the College of Physicians and Surgeons of San Francisco, 1920. Licensed in California in 1920. Doctor Milo was a member of the Solano County Medical Society.

✣

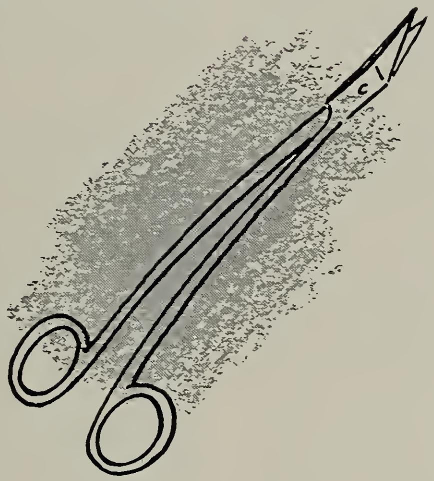
Simpkin, John M., San Leandro. Died January 15, 1962, in Alameda, aged 67. Graduate of Rush Medical College, Chicago, Illinois, 1919. Licensed in California in 1933. Doctor Simpkin was a member of the Alameda-Contra Costa Medical Association.

✣

Stafford, Douglas Daniel, Alameda. Died January 31. 1962, in Alameda, aged 63, of heart failure due to myelogenous leukemia. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1926. Licensed in California in 1926. Doctor Stafford was a retired member of the Alameda-Contra Costa Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✣

Tucker, Royal Grover, Temple City. Died January 28, 1962, aged 59. Graduate of the College of Medical Evangelists School of Medicine, Loma Linda-Los Angeles, 1932. Licensed in California in 1932. Doctor Tucker was a member of the Los Angeles County Medical Association.



PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, *M.D., M.P.H.*
Director, State Department of Public Health

THE PRESENT influenza epidemic which began in November in Florida and California has now extended into at least 26 states and the District of Columbia. The eastern sections of the nation are now bearing the brunt of the epidemic, while here little remains of the disease although at one time it was almost statewide in its effect.

Twenty-four counties are now included in the roster of those in California with serologically proved influenza cases. Of 123 such cases, three are Type A, including one in a 15-year-old boy in Napa County whose illness began the third week in January, and two others that occurred earlier in Berkeley and Santa Barbara. These three cases are apparently the only Influenza A identification made this season in the United States. What significance they may have is not clear at present. Type B has also been identified in the same three areas.

Pneumonia and influenza deaths in the eight key California cities dropped for the third straight week to 29 after a high of 48 for the week ended January 20. Deaths from all causes have remained about normal for this time of year.

* * *

The results of a survey of sewers in 16 northern California counties by the Bureau of Sanitary Engineering has disclosed numerous hazards to public health, in addition to potentially dangerous situations.

The department currently is evaluating these hazards and reporting them to local health departments, and is working with health departments and sewage plant operators to correct system faults.

The survey was undertaken to determine the extent of public health effects of current sewage collection, treatment, disposal, and use practices, and to find and correct public health hazards, both existing and potential.

The survey covered 200 sewerage systems serving more than three and a half million people in the following counties: Alameda, Contra Costa, Del Norte, Humboldt, Lake, Marin, Mendocino, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma.

* * *

The department has been granted $66,000 in federal funds to begin a research project on factors affecting public acceptance of automobile seat belts. The study is concerned with motivations and resistances which relate to the purchase and use of seat belts by the motoring public.

* * *

California's tuberculosis morbidity statistics will now include all cases of active primary tuberculosis with x-ray evidence of disease but will not include cases in which the conversion of the skin test is the only evidence of infection.

This action is in compliance with the recommendation of the ad hoc committee of the U. S. Public Health Service and has been approved by the committee of the Association of State and Territorial Health Officers for nationwide reporting. For at least two years the state tabulations will separate primary tuberculosis so that the effect on trends can be followed.

* * *

The ten-member San Francisco Bay Area Regional Hospital Planning Committee held its first meeting in mid-February to consider the utilization of hospitals and related community health facilities and services on a regional basis.

The planning region was established by the department's Advisory Hospital Council earlier this year in recognition of the need for regional hospital groups as a means of establishing sound community planning for such facilities. A similar region was established in the Los Angeles area in November. Formation of the regions was authorized by the State Legislature last year. The committees are required to submit progress reports to the Legislature in early 1963.

The Bay Area region encompasses the nine bay counties, Santa Clara, San Mateo, San Francisco, Marin, Sonoma, Napa, Solano, Contra Costa, and Alameda. The Los Angeles area encompasses the counties of Los Angeles, Orange, Ventura, San Bernardino, and Riverside.

Membership on the San Francisco committee includes Dr. Harold D. Chope, San Mateo County Health Officer, chairman, and Dr. Albert C. Daniels, San Rafael. The Southern California committee membership includes Dr. Edward L. Russell, Orange County Health Officer, chairman, and Dr. Edward H. Crane, Los Angeles.

Not Unless Licensed

Court Holds Not Even Skilled or Proficient Persons, If Unlicensed, May Perform Acts That Are Medical or Surgical in Character

HOWARD HASSARD, *Legal Counsel*
California Medical Association

THE SUPREME COURT OF CALIFORNIA in a unanimous opinion filed in December 1961, held that a licensed physician and surgeon who permits an unlicensed M.D. to perform medical or surgical acts for him is guilty of unprofessional conduct. This opinion construes certain parts of the Business and Professions Code for the first time. It will have an important influence for years to come in all the licensed professions.

Jack R. Magit, M.D., the director and chief anesthesiologist of the Beverly Hills Doctors Hospital, employed three M.D.'s unlicensed in California to assist him in administering anesthetics, including spinal and epidural anesthetics, from March 1956 to July 1958.

The California Board of Medical Examiners formally charged Dr. Magit with violation of Section 2392 (employing or aiding and abetting an unlicensed person to practice any system or mode of treatment), Section 2378 (conspiring to violate any section), and Section 2141 (any unlicensed person who practices). The board found that Dr. Magit knowingly aided and abetted three unlicensed persons to administer anesthetics. The facts showed that these men had specialized training and experience in anesthesiology and were highly competent. Their work was done with his knowledge and authorization. Doctors Hospital is not approved for the training of students or interns. Dr. Magit acted in good faith and upon advice of counsel that such practice was not illegal. The board found Dr. Magit guilty of unprofessional conduct under Sections 2392, 2378, and 2141 of the Business and Professions Code, and revoked his license.

The California Supreme Court used this language in concluding that the administration of anesthetics is an integral part of surgical treatment:

"Our statutes do not specifically provide that one who administers anesthetics must have a license to practice medicine or any of the other healing arts. Whether the administration of anesthetics by the three unlicensed persons was illegal and made Dr. Magit guilty of unprofessional conduct depends primarily upon whether it constituted the practice of 'any system or mode of treating the sick or afflicted' within the meaning of Sections 2141 and 2392. If the administration of anesthetics does not come under these provisions, everyone would be free to administer them since there is no other statutory restriction which would apply. Those who administer anesthetics 'use drugs or what are known as medical preparations in or upon human beings' and, in administering spinal or epidural anesthetics, they 'penetrate the tissues of human beings' within the meaning of Section 2137 of the code, which includes the quoted terms in setting forth the practice authorized by a physician's and surgeon's certificate. The application of anesthetics is obviously an integral part of the surgical treatment which it facilitates, and it falls directly within the language of Sections 2141 and 2392."

The court then elaborated this point by referring to the legislative intent as shown in several sections of the various statutes and also cited several cases which buttressed this conclusion. Among other things the court said:

". . . The desirability of restricting the right to administer anesthetics was recognized in *Painless Parker vs. Board of Dental Examiners,* 216 Cal., where this court said: 'The right to administer anesthetics which produce local or general insensibility to pain or drugs which may produce total or semi-unconsciousness, or otherwise affect the nervous system, should be withheld not only from all persons who are not highly skilled in the knowledge of and the use of said drugs, but also from persons who cannot produce evidence of good moral character.' "

Some medical acts, the court went on to point out (including administration of anesthetics under some circumstances), may be done by persons not licensed to practice medicine in California. By statutory exception certain persons engaged in medical study and teaching at approved hospitals may perform acts which constitute treatment of the sick. Also in the case of *Chalmers-Francis vs. Nelson* (1936) 6 Cal. 2d, 402, it was held that a licensed registered nurse under the immediate direction and supervision of the operating surgeon would not in administering an anesthetic be practicing medicine. The Supreme Court said of the facts in that case and the applicable statute:

"At the time of the Chalmers-Francis case the statutes provided for the licensing of nurses but did not define or restrict their functions. In the absence of a statutory definition the court looked to the existing custom and practice concerning the administration of anesthetics by nurses. It has generally been recognized that the functions of nurses and physicians overlap to some extent, and a licensed nurse, when acting under the direction and supervision of a licensed physician, is permitted to perform certain tasks which, without such direction and supervision, would constitute the illegal practice of medicine or surgery.

". . . Three years after the Chalmers-Francis decision, a number of provisions concerning nursing were added to the code, among which were Sections 2725 and 2726. Section 2725 defines the practice of nursing and shows a legislative intent that a nurse may, under the direction of a licensed physician, perform services which require technical skill and medical knowledge. Section 2726 states that the chapter dealing with nursing does not confer any authority to practice medicine or surgery. These sections must be construed together, and when this is done it is clear that Section 2726 does not mean that nurses are precluded from performing all acts which are medical or surgical in character but, rather, that they would be guilty of illegally practicing medicine or surgery only if their conduct in performing such acts did not come within the permissible scope of a nurse's functions as defined in Section 2725. The definition in Section 2725 is so broad that the administration of certain forms of anesthetics by a registered nurse acting under the immediate direction and supervision of a licensed physician, may come within its scope. To what extent and under what conditions it authorizes nurses to perform such acts is not before us, and we need note only that any authority they may have in this field is derived from their special statutory position and does not affect the authority of others. . . ."

The court thus concluded that in the absence of a statutory exception such as applies to nurses and those engaged in medical study and teaching "*one who is not licensed to practice medicine or surgery cannot legally perform acts which are medical or surgical in character,* and supervision does not relieve an unauthorized person from penal liability for the violation of the statutes. . . ." In order to assure the protection of the public, it is required "that a person's competency be determined by the State and evidenced by a license."

The fact that the acts were done under supervision is not controlling.

"Likewise a licensed practitioner who aids and abets the performance of medical or surgical acts by an unauthorized person is guilty of unprofessional conduct under Section 2392 of the code even though the acts are done under his immediate direction and supervision. . . .

"It follows from what we have said that Dr. Magit was guilty of unprofessional conduct in violation of Section 2392 since he aided and abetted the practicing of medicine by three unlicensed persons and that this conduct also violated Section 2141. The contrary conclusions reached by the trial court are erroneous, and the judgment must be reversed."

The court then considered whether or not the penalty imposed—revocation of license—was proper and concluded as follows:

"In a mandamus proceeding to review an administrative order, the determination of the penalty by the administrative body will not be disturbed unless there has been an abuse of its discretion. In applying the rule in the present case, the following circumstances must be considered: The court on sufficient evidence found that Dr. Magit acted in the utmost good faith, that Rios, Celori and Ozbey were doctors of medicine with specialized training in anesthesiology and were highly competent anesthetists, and that on the basis of legal advice, Dr. Magit was justified in assuming that the authorizing of the three unlicensed men to administer anesthetics was legal. In considering whether persons such as Rios, Celori and Ozbey could legally administer anesthetics, Dr. Magit was confronted with a question not specifically answered by the code or by any decision of our courts, and the Chalmers-Francis case had held that, in addition to licensed physicians, licensed nurses could administer anesthetics.

"Under the circumstances of this case the imposition of the maximum penalty (revocation of Dr. Magit's license), which would prevent him from being gainfully occupied in his profession, was a clear abuse of discretion. 'Suspending judgment' or 'Placing . . . upon probation,' as permitted by Section 2372 of the code, would be a more appropriate discipline, and the case should be returned to the board for reconsideration of the penalty to be imposed."

Specifically in this case it was held that the administration of an anesthetic is an act which is "medical or surgical in character," and that it is unlawful for an unlicensed person even under supervision to do it. More broadly, the decision in this case appears to hold that acts which are "medical or surgical in character" or the practice of any system or mode of "treating the sick or afflicted" or acts which constitute diagnosis or treatment of any ailment may be done lawfully only by persons licensed to practice medicine or licensed to do specific things. Exactly what is included by these terms is a question of fact and common medical practice.

The licensing power of the State and the dignity of a license were burnished anew by this decision. Of perhaps equal importance is the warning to licensees that they cannot loosely stretch their mantle of license to include *unlicensed* persons with the elastic concept of supervision; it is unprofessional conduct and illegal to do so. All licensed persons would be well advised to review their habits and concepts concerning the use of unlicensed technicians, aides, nurses, etc., in the light of this decision. This is particularly true concerning those acts which are "medical or surgical in character" and which, by statute, only certain licensed persons are authorized to perform.

Professional liability insurance contracts specifically *exclude* coverage for injuries resulting from unlawful or criminal acts. Further, it is well to remember that when legislation is enacted for the protection of the public, violation of its provisions ordinarily constitute a breach of the duty of care required of reasonable and prudent men. Thus, the unlawful use of unlicensed personnel may subject a physician to:

(a) Loss of his professional liability insurance coverage;

(b) Imposition of almost absolute liability for injuries occurring from acts performed by such unlicensed persons, and

(c) Loss or limitation of his license to practice.

Because of all the circumstances in the Magit case, such as the fact that the question had not been previously answered by "code or by a decision of our courts," it was recommended that probation or suspension of judgment ought to be more appropriate than revocation of license. It would be prudent to assume that, a ruling having been made, the next person found to have aided and abetted unlicensed persons to practice medicine will have no claim upon judicial leniency.

Many physicians use unlicensed assistants whom they have trained to help them in obtaining facts to determine what treatment is needed and to assist administratively in giving treatment. Accepted custom and practice in the profession may be considered by the State Board of Medical Examiners and the courts in determining whether the acts done are an obvious integral part of medical or surgical treatment and constitute diagnosis and treatment of the sick or are ancillary functions and tasks that may be performed under the direction and supervision of a licensed physician by a well-trained assistant. Acts which are not an obvious integral part of medical and surgical treatment were not before the court in this case. The rule that applied to an anesthetic need not apply to the taking of a history, weighing a patient or determining body temperature and other clerical, ancillary or administrative functions in a physician's office which are performed by trained but unlicensed persons.

INFORMATION

Traffic Safety

Lapses of Consciousness Reportable as Epilepsy

The following statement from the California Medical Association Traffic Safety Committee is endorsed by the C.M.A. Council and the State Department of Public Health.

ALL CONDITIONS which subject patients to any lapse of consciousness, and which may become chronic or recurring, have been reportable since 1939 in California under the term *epilepsy*. This report should be made to the local public health officer. This information is recorded and passed through the State Health Department to the Department of Motor Vehicles which shall treat the report confidentially and use the report, along with all available medical data, in evaluating the eligibility of the individual to operate a motor vehicle on the public highways with safety to self and others.

The importance of this reporting by all physicians is being stressed by the C.M.A. Council and the Committee on Traffic Safety. The physician's responsibility does not stop with reporting the condition, and he has done his patient no disservice in complying with the law. The representatives of the Driver Improvement Program of the Department of Motor Vehicles will want to work with the physician in arriving at a decision in each case on an individual basis. This means that all medical facts pertinent to the condition need to be transmitted to the Driver Improvement Program in determining whether license should be granted or revoked (and for what time period—or under what condition reinstatement would be considered). Where lack of agreement on a course of action exists, it has been suggested that a committee of physicians impartially consider all medical data and give an opinion to the department. This plan is being followed presently in several California counties which have active Traffic Safety Committees.

In the interest of decreasing the staggering toll of traffic induced injuries and fatalities, all physicians are urged to report cases falling under this category, and to give other full cooperation to driver improvement analysts—thus serving both their patients and the public at large.

STATE REGULATIONS ON REPORTING OF EPILEPSY

1. California Health and Safety Code, 1959:
   Section 410. "The State Department of Public

Health shall define epilepsy for the purpose of the reports hereinafter referred to:

"1. All physicians shall report immediately to the local health officer, in writing, the name, age, and address of every person diagnosed as a case of epilepsy or similar disorders characterized by lapses of consciousness.

"2. The local health officer shall report in writing to the state department the name, age, and address of every person reported to it as a case of epilepsy.

"3. The state department shall report to the State Department of Motor Vehicles the names, ages, and addresses of all persons reported as cases of epilepsy by the physicians and local health officers.

"4. Such reports shall be for the information of the State Department of Motor Vehicles in enforcing the provisions of the Vehicle Code of California, and shall be kept confidential and used solely for the purpose of determining the eligibility of any person to operate a motor vehicle on the highways of this state."

2. California Administrative Code, Title 17, Public Health:

Section 2572. "Epilepsy (and Chronically Recurring State of Unconsciousness)." As required in Section 410 of the Health and Safety Code, the definition as to what shall constitute a reportable case of epilepsy shall be as follows:

"Any condition which brings about momentary lapses of consciousness and which may become chronic shall be considered reportable under the term epilepsy."

Old Age Assistance

A Report by the Bureau of Research and Planning

What are some of the reasons why older persons become eligible for Old Age Assistance in California?

How many become eligible because of medical care needs?

This Report of the Bureau of Research and Planning draws upon recently published data of the State Department of Social Welfare and presents statistics covering a recent one-year period.

LESS THAN one person in seven who were added to Old Age Assistance (OAS) rolls in California in the 12 months ended June 30, 1961, was added for medical care requirements.

The slightly more than 250,000 persons in California who receive Old Age Assistance are eligible for a variety of medical services under the State Public Assistance Medical Care Program.

A recently published report of the Department of Social Welfare contains a number of tables which provide information as to reasons for need in those cases for which aid was granted to beneficiaries under several types of programs. One of these is the Old Age Security program.

Data given for two six-month periods were combined to provide a one-year picture of experience.

The accompanying table shows that only 15.8 per cent (4,339) of the 27,501 persons were added

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Source: State of California Department of Social Welfare, Reasons for Need, Statistical Series PA 4 - 1, Tables 2 and 7, October 30, 1961.

TABLE 1.—*Reasons for Need, Among 27,501 OAS Recipients (July 1960-June 1961)*

Reason for Need	Total Cases		Persons Receiving OASDI*		Persons Not Receiving OASDI	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
All reasons	27,501	100.0	17,516	100.0	9,985	100.0
A. Significant reduction in income or resources	15,745	57.3	10,286	58.7	5,459	54.7
1. Recipient's earnings lost or reduced	3,649	13.3	2,748	15.7	901	9.0
2. Other persons living in home stopped or reduced support	2,952	10.7	1,644	9.4	1,308	13.1
3. Support from persons outside the home lost or reduced	985	3.6	500	2.9	485	4.9
4. Other income of recipient lost or reduced	830	3.0	581	3.3	249	2.5
5. Recipient's assets exhausted or reduced	7,286	26.5	4,783	27.3	2,503	25.1
a. **To meet medical care costs**	2,280	8.3	1,612	9.2	668	6.7
b. To meet other costs	5,006	18.2	3,171	18.1	1,835	18.4
6. Other significant reduction or loss of resources	43	0.2	30	0.2	13	0.1
B. No significant reduction in income or resources	11,756	42.7	7,230	41.3	4,526	45.3
1. Increase in recipent's need for	2,943	10.7	2,242	12.8	701	7.0
a. **Medical care**	2,059	7.5	1,575	9.0	484	4.8
b. Nonmedical assistance	884	3.2	667	3.8	217	2.2
2. Transferred from other assistance programs	1,213	4.4	462	2.7	751	7.5
3. Previously lived below program standards	7,367	26.8	4,401	25.1	2,966	29.7
4. Other miscellaneous reasons for need	233	0.8	125	0.7	108	1.1

*Old Age Survivors Disability Insurance.

to OAS rolls because their assets had been exhausted or reduced to the point where they needed assistance to meet medical care costs. Slightly more than half of the 4,339 had had significant reduction in income or resources; the remainder had not.

693 Sutter Street, San Francisco.

The A.M.A. Education and Research Foundation

THE American Medical *Education* Foundation (A.M.E.F.) was established in 1951 for the purpose of providing financial assistance to medical schools. The American Medical *Research* Foundation (A.M.R.F.) was established in 1957 for broader purposes, including the provision of financial assistance to medical schools.

Effective January 1, 1962, the programs of A.M.E.F. and A.M.R.F. were consolidated within the framework of a single foundation—the American Medical Association Education and Research Foundation (A.M.A.-E.R.F.). These programs will be expanded and a concerted effort made to provide increased financial help to medical schools, in addition to financing the other projects of the Foundation.

This Foundation is incorporated under the laws of the State of Illinois as an educational, scientific organization. All contributions to the A.M.A.-Education and Research Foundation are tax deductible under Section 501(c) (3) of the U. S. Internal Revenue Service Code.

The affairs of this Foundation are managed by a board of directors elected annually by and from the membership of the Board of Trustees of the American Medical Association.

At present, the board of directors and officers are: Hugh H. Hussey, Jr., M.D., president; Raymond M. McKeown, M.D., Vice-President; James Z. Appel, M.D., Secretary-Treasurer; Leonard W. Larson, M.D., and Gerald D. Dorman, M.D.

At present the Foundation is seeking funds to support the following programs:

Unrestricted financial assistance to medical schools
A medical journalism fellowship program
Research grants for medical research workers
A study of perinatal mortality and morbidity
A study of continuing medical education.

During 1962, the Foundation will also undertake to raise funds to assist in the financing of medical scholarships and for loans to medical students, as well as to physicians in internships and residencies.

Fund-Raising by A.M.A.-E.R.F.

The A.M.A.-E.R.F. seeks financial support from physicians, constituent and component medical societies, the Woman's Auxiliary, philanthropic organizations, business entities and the general public. Within the limitations of the financial needs of its various projects, the Foundation encourages contributors to designate which project they wish to support and, in the case of financial assistance to medical schools, to designate the specific school which is to receive their contribution.

The success of the Foundation's fund-raising efforts is in good measure dependent upon the voluntary cooperation and support from constituent and component medical societies and their counterpart components of the Woman's Auxiliary. The support of physicians and their wives can best be enlisted through the efforts of these local societies. The effectiveness of this approach is clearly demonstrated by the success of constituent and component society and local auxiliary efforts to raise funds for A.M.E.F. in the past.

With regard to fund-raising, Dr. F. J. L. Blasingame, executive vice-president of the American Medical Association, suggests that:

- Each state continue to appoint a "state A.M.A.-E.R.F. foundation committee" (the present A.M.E.F. committee might become the A.M.A.-E.R.F. committee).
- Such committees of the constituent medical society should be encouraged to provide leadership for similar action by the component societies.
- Constituent and component societies should continue and expand their fund-raising programs to support medical schools as well as any other Foundation project which finds merit in the eyes of their members.
- Officers and other members of each society should be encouraged to make the Foundation and its programs known to businessmen, philanthropists and other potential donors in their communities.

It is the intention of the A.M.A.-E.R.F. to support these local programs at the national level through direct-mail solicitation directed to all physicians and to other segments of the lay public, through press releases and stories in our own publications, and through individualized presentations to national business and philanthropic organizations.

The coordination of all of these efforts requires effective communication and a spirit of cooperation. Representatives of the A.M.A. Field Service Division have been instructed to maintain liaison with the executive secretary of each society with regard to the activities of A.M.A.-E.R.F. in much the same manner that they now maintain liaison with respect to other A.M.A. programs. "If the national headquarters of the A.M.A. can be of service to your society's A.M.A.-E.R.F. programs in 1962," Dr. Blasingame said, "please make your needs known to the Field Representative assigned to your state."

NEWS & NOTES

NATIONAL · STATE · COUNTY

LOS ANGELES

The Ninth Annual Student A.M.A. Conference sponsored by the California Medical Association and the Los Angeles County Medical Association will be held April 1 at L.A.C.M.A. headquarters. A program of presentations designed to help students and those about to begin practice will start at 9 a.m. and end at noon. Then a buffet lunch **honoring the deans of medical schools** will be served.

9:00—Mr. George Petti, Jr., Loma Linda University—Welcome from the Student A.M.A. Chairman.

9:10—Ian Macdonald, M.D., President, Los Angeles County Medical Association—A Look at Services Your Medical Associations Offer; What the Profession Will Expect from You.

9:25—Donald A. Charnock, M.D., Physician Chairman. Past president of the California Medical Association—A Look at Medical Ethics; Guide Posts to a Satisfactory and Satisfying Practice.

9:45—James F. Regan, M.D., Member of the Board of Medical Examiners—The Board Takes a Look at You. How to Maintain Proper Physician-Patient Relationships. Reciprocity.

10:00—John D. Camp, M.D., Chief of Staff of the Hospital of the Good Samaritan—A Look at the Role of the Private Hospital.

Question and Answer Period.

10:45—Thomas H. Brem, M.D., U.S.C. School of Medicine—A Look at Academic Medicine.

11:00—William P. Longmire, Jr., M.D., U.C.L.A. Medical Center—A Look at the Future in Specialties.

11:15—Robb Smith, M.D., Orange Cove, California—**Another** Look at General Practice in a Rural Community.

11:30—Warren L. Bostick, M.D., President of the California Medical Association—The Politicians Are Looking at Medicine; Current Controversies and the Future.

Noon—Question and Answer Period.

SACRAMENTO

A citation from the President's Committee on Employment of the Physically Handicapped for "meritorious service in appreciation for exceptional contributions in furthering the employment of the physically handicapped" has been presented to **Dr. Christopher Leggo**, medical officer of the California State Personnel Board.

SAN DIEGO

Dr. Edmund L. Keeney, medical director of the Scripps Clinical and Research Foundation, La Jolla, was named president-elect of the American Academy of Allergy at the organization's annual meeting in Denver, February 5 to 7. Dr. Keeney will take office as president at the 1963 annual meeting in Montreal.

SAN FRANCISCO

The California Medical Assistants Association will hold its Annual Convention April 7 and 8 at the Sir Francis Drake Hotel, San Francisco. Registration will begin at 7 p.m. Friday, April 6, the evening before the meeting opens.

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The Western Section of the **American Urological Association** will hold its 1962 Annual Convention at the Sheraton-Palace Hotel, San Francisco, April 23 to 26.

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The Pacific Dermatologic Association will hold a business meeting at 3:30 p.m. Wednesday, April 18, in the Terrace Room of the Fairmont Hotel.

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SANTA CLARA

The Fifth Annual **Palo Alto Medical Symposia**, sponsored by the Clinic and the Palo Alto Medical Research Foundation, will be presented Saturday, April 7, 1962.

Further information may be obtained from Dr. John F. Weigen, program chairman, 300 Homer Avenue, Palo Alto.

GENERAL

New **experimental health coverage** specifically designed for California **citizens over 65 years of age** is now being offered by California Physicians' Service-Blue Shield.

The program, known as "C.P.S.-65," comes in two different versions which are similar in basic outline but include several benefit variations. Both versions offer coverage for hospital care, surgical care, medical care while hospitalized and x-ray and laboratory benefits. One of the two plans includes outpatient medical benefits. A co-payment hospital feature is included in both plans, and a deductible is applied with the outpatient coverage.

Surgical coverage under the program includes a fee schedule which is based on the California Medical Association's Relative Value Study of 1960, with a $5.00 factor applied. The standard C.P.S. income provision for this fee schedule provides that C.P.S. physician members will accept the fees paid as payment in full for contract benefits if the member's income is less than $7200 annually.

Cost of Plan I is $16.50 per month, and Plan II, which includes home and office visits, is $19.70 per month.

Because of the experimental nature of the program, enrollment advertising is not planned at this time. C.P.S. has announced the program to persons who have inquired about such coverage over the past several months, and applications are now being accepted. C.P.S. will continue to enroll applicants until the end of March.

California Medical Association

91st Annual Session

FAIRMONT HOTEL, SAN FRANCISCO

April 15 to 18, 1962

For complete program, see section following page 236 of this issue.

For notes on **other meetings and entertainment** that will be concurrent with the annual meeting, April 15 to 18, see page 8 of the program section which follows page 236 of this issue.

1939's Income Today

An annual income today of $7,500 is equivalent to a 1939 income of $3,409, according to a study of the Consumers Price Index made by the C.M.A. research department. The difference is represented by the 120 per cent increase in the index in California since 1939.

On the same basis, an income of $3,000 in 1939 is equivalent today to $6,600 on a statewide average. In San Francisco, which showed a 128 per cent C.P.I. increase, the 1939 $3,000 is now $6,840; while in Los Angeles, where the C.P.I. rise was 115 per cent, it is $6,450.

1939 Income Adjusted Upward to 1961 by Changes in C.P.I.

	Adjusted Money Income, 1961		
1939 Money Income	Los Angeles	San Francisco	California
$ 3,000	$ 6,450	$ 6,840	$ 6,600
5,000	10,750	11,400	11,000
7,500	16,125	17,100	16,500

1961 Income Adjusted Downward to 1939 by Changes in C.P.I.

	Adjusted Money Income, 1939		
1961 Money Income	Los Angeles	San Francisco	California
5,000	2,326	2,193	2,273
7,500	3,488	3,289	3,409
10,000	4,651	4,386	4,545

California Chiropractors May Not Do Obstetrics

California chiropractors may not do obstetrics, a superior court has held in proceedings instituted by the State Board of Medical Examiners.

The case involved a Glendora chiropractor, Harriet E. Hightower, who said during the trial she has delivered 2,200 mothers since 1929. Her defense contended the 1922 Chiropractic Act gave chiropractors the privilege of doing obstetrics provided no drugs were administered or surgical operations performed.

Superior Judge John Stuart Frazer ruled that "the practice of obstetrics by chiropractors was never intended nor authorized by the Chiropractic Act," and that "a claim of any chiropractor to so practice is without right." He issued an injunction preventing the defendant from practicing obstetrics.

Denied Membership for Excessive Fees

A former Toledo, Ohio, physician now practicing in New York, denied membership in the Academy of Medicine, Toledo and Lucas County, for charging excessive fees, lost a million dollar damage suit against the society when the court ruled he had not exhausted his right of appeal to the Ohio Medical Association as provided in the state and county society constitutions.

In his testimony the plaintiff said he objected to the academy's investigating his fees and that the courts, not the academy, should decide fee disputes.

Academy complaints were filed against the physician during his five-year membership probationary period.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to Postgraduate Activities, California Medical Association, 693 Sutter Street, San Francisco 2.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Coronary Arteriosclerosis — Detection and management. Saturday, March 3. Eight hours. Fee: $20.00.

The Skin and Internal Disorders. Saturday through Monday, March 24 through March 26. Twenty-four hours. Fee: $50.00.

A Review of Advances in Surgery for General Practitioners. Friday and Saturday, April 13 and 14. Fee: $40.00.

For information on courses for physicians or ancillary personnel *contact:* Lowell A. Rantz, M.D., associate dean, Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Clinical Traineeships — Anesthesia, Dermatology and Pediatric Cardiology. Dates by arrangement. Minimum period—two weeks. Fee: Two weeks, $150.00; four weeks, $250.00.

Hypothermia (at Harbor General Hospital, Torrance), Friday through Sunday, March 30 through April 1. Twenty hours. Fee: $60.00.

A Clinical Postgraduate Program in Japan and Hong Kong. April 8 through 29. Fee: $200.00.

Inhalation Therapy. Saturday, May 26. Seven hours. Fee: $10.00.

Medical Emergencies. Friday and Saturday, June 1 and 2.*†

Seminars for General Practitioners. Tuesday through Sunday, July 3 through 8. At University Residential Conference Center, Lake Arrowhead. Fee: $162.50 includes room and meals for 5 days.

Anesthesiology. Thursday through Saturday, August 2 through 4.*†

Seminars in Internal Medicine. Sunday through Wednesday, August 12 through 15. At University Residential Conference Center, Lake Arrowhead. Fee: $137.50 includes room and meals for 3 days.

Pediatrics. Wednesday through Sunday, August 15 through 19. At University Residential Conference Center, Lake Arrowhead. Fee: $150.00 includes room and meals for 4 days.

The Evaluation of Therapeutic Agents and Cosmetics. Thursday through Saturday, August 16 through 18.*†

For information on courses for physicians or ancillary personnel *contact:* Thomas H. Sternberg, M.D., assistant dean for Department of Continuing Education in Medicine and Health Sciences, U.C.L.A. Medical Center, Los Angeles 24. BRadshaw 2-8911, Ext. 7114.

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* Fees to be announced.

†Hours to be announced.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Child Development. Saturday, March 10. Six hours. Children's Hospital, San Francisco. Fee: $12.50.

Diagnostic Radiology. Wednesday through Sunday, March 14 through 18. Thirty-six hours. Fee: $80.00.

Evening Lectures in Medicine. Eden Hospital, Castro Valley. Tuesdays, March 27 through April 17. Sixteen hours. Fee: $35.00.

Modern Cardiovascular Drugs. Thursday through Saturday, March 29 through 31. 18½ hours. Fee: $50.00.

Humanities and the Health Sciences. Monterey Peninsula College, Monterey, Friday evenings, March 30 through April 27. Five hours. Fee: Series: $10.00; single admission, $2.00.

Water, Salts and Steroids. Thursday through Saturday. April 5 through 7.*†

General Surgery. Thursday through Saturday, April 26 through 28. Fee: $50.00.*†

Ear, Nose and Throat. Thursday through Saturday, May 10 through 12.*†

Proctology. Thursday and Friday, May 17 and 18. Fee: $50.00.†

Genetics. Thursday through Saturday, May 24 through 26.*†

Back Pain. Friday through Sunday, June 1 through 3.*†

Corneal Lens: Theory and Application. Thursday through Saturday, June 7 through 9.*†

Courses presented by Special Arrangement (continuously):

1. **Principles and Clinical Uses of Radioisotopes** (full time for one to three months).
2. **Anesthesiology** (full time for one to three weeks).

For information on courses for physicians or ancillary personnel *contact:* Department of Continuing Medical Education in Medicine and Health Sciences, University of California Medical Center, San Francisco 22. MOntrose 4-3600, Ext. 665.

PRESBYTERIAN MEDICAL CENTER, SAN FRANCISCO

Operable Heart Disease (Fourth Annual Conference). Friday and Saturday, March 2 and 3. Fee: $25.00. Chairman: Frank Gerbode, M.D.

Conference on the Hand and Foot. Saturday, March 10. Eight hours. Fee: $25.00.

Special Surgery of the Extremities. Saturday, March 17. Fee: $25.00. Chairman: Donald King, M.D.

Conference on Emergencies. Saturday, March 24. Eight hours. Fee: $25.00.

Highlights of Modern Ophthalmology at Presbyterian Medical Center, San Francisco. April 12 through 14. Fee: $75.00. *Contact:* Secretary, Presbyterian Medical Center Eye Bank, 2018 Webster Street, San Francisco.

Contact: Arthur Selzer, M.D., program committee chairman, Presbyterian Medical Center, Clay and Webster Sts., San Francisco 15, WEst 1-8000, Ext. 303 or 414.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Basic Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: $100.00.

Advanced Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: $85.00. Physicians may register at any time.

Psychosomatic Medicine Case Conferences. Begins March 7. 12 case conferences. Once a week for 3 months. Fee: $35.00.

Psychiatric Hospital Rounds. Begins March 7. Meets once a week for three months. Los Angeles County Hospital, 3:00 to 5:00 p.m. Fee: $25.00.

Ward Walks in Rare Diseases. Thursday evenings, March 15 through May 17, 7:30 to 9:30 p.m. Los Angeles County Hospital. Fee: $100.00. Enrollment limited to 20.

Medical Surgical Gastroenterology Conference. Friday and Saturday, March 16 and 17, 9:00 a.m. to 5:00 p.m. Statler Hilton Hotel. Fee: $37.50.

Psychiatry in Medical Practice. May, 1962. Two-day intensive workshop at San Luis Obispo County General Hospital. Fee: $15.00. (Weekend meetings.)

Medical Centers of Europe. May 21 through June 15: Part A—London, Stockholm, Copenhagen and Paris. Fee: $250.00. June 16 through June 30: Part B—Italy. Fee: $150.00. June 30 through July 9: Part C—Greece. Fee: $75.00.

5th Annual Refresher Course in Hawaii and on board the S.S. Matsonia, July 30 through August 13. (Air travel also possible.)

Psychiatry Courses. *Contact:* Allen J. Enelow, M.D., associate clinical professor, Department of Psychiatry, 1934 Hospital Place, Los Angeles 33, CA 5-3131, Ext. 71951.

Contact: Phil R. Manning, M.D., Associate Dean and Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

LOMA LINDA UNIVERSITY

Clinical Traineeships available in clinical departments by arrangement with Postgraduate Division and Postgraduate Chairman of department involved. In addition to those listed other traineeships in other departments can be arranged. Eighty hours minimum. Limited enrollment. Begin when individually arranged.

1. **Anesthesia.** Six months. 250 to 300 hours. Fee: $350.00.
2. **Pulmonary Diseases** (can be arranged).

Refresher Courses: General Surgery, Internal Medicine, Obstetrics-Gynecology. Los Angeles Campus (White Memorial Hospital). Sunday and Monday, March 11 and 12. *Contact:* Alumni Association, School of Medicine, 316 No. Bailey Street, Los Angeles 33, AN 2-2173.

Cell and Tissue Culture. Lectures and Laboratory sessions on Tuesday and Thursdays, March 20 through June 7. 36 hours lecture work, 72 hours laboratory work. Fee: Laboratory and lectures, $200.00. Lectures only $60.00. Enrollment limited to 8 in the laboratory course; 100 in the lecture course.

***Continuously:* Illustrated Medical Lectures.** Thirty-minute tape recordings and accompanying 35 mm. filmstrips, 50 to 80 full-color pictures for screen, hand or desk viewer. Available individually or by subscription. Twelve or 36 titles per year, all titles produced

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*Fees to be announced.
†Hours to be announced.

in one year in any chosen specialty. Projectors and viewers included in subscription plans. *Contact:* Loma Linda University, Illustrated Medical Lectures, Los Angeles 33.

For information contact: W. F. Norwood, Ph.D., Assistant Dean and Chairman, Division of Continuing Education, Loma Linda University, 1720 Brooklyn Ave., Los Angeles 33. ANgelus 9-7241, Ext. 214.

CALIFORNIA MEDICAL ASSOCIATION POSTGRADUATE INSTITUTES—1962

West Coast Counties in cooperation with University of Southern California School of Medicine, Del Monte Lodge, Pebble Beach. March 8 and 9, 1962. *Chairman:* Joseph E. Turner, M.D., 1073 Cass Street, Monterey.

North Coast Counties, in cooperation with Stanford University School of Medicine. Hoberg's Resort, Lake County, March 29 and 30, 1962. *Chairman:* Lucius L. Button, M.D., 1102 Montgomery Drive, Santa Rosa.

San Joaquin Valley in cooperation with University of California San Francisco School of Medicine. Ahwahnee Hotel, Yosemite. May 3 and 4, 1962. *Chairman:* Samuel Ross, M.D., 2946 Fresno Street, Fresno.

Sacramento Valley Counties in cooperation with Loma Linda University. Feather River Inn, Blairsden. June 21 and 22, 1962. Sherman DeVine, M.D., General Chairman, 2530 H Street, Sacramento.

For information regarding Postgraduate Circuit Courses and Postgraduate Institutes, contact: Postgraduate Activities, California Medical Association, 693 Sutter Street, San Francisco 2. PRospect 6-9400, Ext. 68.

AUDIO-DIGEST FOUNDATION

A nonprofit subsidiary of California Medical Association, offers a subscription series of hour-long tape recordings condensing highlights of important literature and leading national meetings. Designed to be heard in the automobile, home or office. Six different services are offered —General Practice, Surgery, Internal Medicine, Obstetrics-Gynecology, Pediatrics, and Anesthesiology. Also, just compiled and released is a Catalog of Classics, offering panel discussions and symposia on specific subjects in all specialties. For information contact Mr. Claron L. Oakley, Editor, 619 So. Westlake Avenue, Los Angeles 57, HUbbard 3-3451.

Medical Dates Bulletin

SOUTHWESTERN PEDIATRIC SOCIETY Spring Lecture Series. Evening of March 6 and all day March 7, Statler Hotel, Los Angeles. *Contact:* R. W. Watson, M.D., 504 So. Sierra Madre Boulevard, Pasadena.

THE ARTHRITIS AND RHEUMATISM FOUNDATION Southern California Chapter. Arthritis Lectures by L. Maxwell Lockie, M.D. Wednesday, March 7 at 8:00 p.m. Ambassador Hotel, Venetian Room, Los Angeles. *Contact:* Jean Reid, director medical program, Arthritis and Rheumatism Foundation, Southern California Chapter, Los Angeles. OLeander 5-7124.

CALIFORNIA ACADEMY OF GENERAL PRACTICE Fresno-Madera-Kings Chapter Postgraduate Seminar with Round-table Discussions. Friday, March 9, 10:00 a.m. Hacienda Motel, Fresno. *Contact:* Marden C. Habegger, M.D., chairman, P.O. Box 632, Reedley.

ANESTHESIA SECTION OF THE LOS ANGELES COUNTY MEDICAL ASSOCIATION Seventh Annual Spring Postgraduate Meeting. Statler Hilton, Los Angeles. March 10 and 11. *Contact:* Thomas W. McIntosh, M.D., 686 East Union Street, Pasadena.

LOMA LINDA UNIVERSITY SCHOOL OF MEDICINE Alumni Postgraduate Convention. March 13 through 15, 1962, Ambassador Hotel, Los Angeles. *Contact:* Kenneth H. Abbott, M.D., general chairman, 316 No. Bailey Street, Los Angeles 33.

LOS ANGELES SOCIETY FOR CHILD PSYCHIATRY Program and Panel on Adolescence, "Management of Certain Problems in Therapy of Adolescents." Friday through Sunday, March 16 through 18. Flamingo Hotel, Las Vegas. *Contact:* William Unger, M.D., arrangements chairman, 435 North Bedford Drive, Beverly Hills.

SANTA CLARA AND SAN MATEO COUNTY HEART ASSOCIATIONS 6th Annual Postgraduate Symposium on Heart Disease. Saturday, March 17, 9:00 a.m. to 5:00 p.m. Veterans Administration Hospital, 3801 Junipero Serra Blvd., Palo Alto. *Contact:* Mr. William G. Allayaud, executive director, Santa Clara County Heart Association, 461 Porter Bldg., San Jose 13 or Mr. John S. Blum, executive director, San Mateo County Heart Association, 45 North B Street, San Mateo.

AMERICAN ORTHOPSYCHIATRIC ASSOCIATION, INC., Biltmore Hotel, Los Angeles, March 21 through 24. *Contact:* Dr. Marion F. Langer, 1790 Broadway, New York 19.

INTERNATIONAL COLLEGE OF APPLIED NUTRITION Annual Convention. Huntington-Sheraton Hotel, Pasadena, March 22 and 23. *Contact:* Donald C. Collins, M.D., secretary, Suite 503, 7046 Hollywood Blvd., Hollywood 28.

TECHNIQUES IN APPLICATION OF CARDIOVASCULAR DISEASE COURSE. Scripps Clinic and Research Foundation, La Jolla, March 26 through April 7. Advance enrollment required. Enrollment is limited. Fee: $200.00. *Contact:* E. Grey Dimond, M.D., director, Institute for Cardiopulmonary Diseases, Scripps Clinic and Research Foundation, 476 Prospect Street, La Jolla.

LOS ANGELES ORTHOPAEDIC HOSPITAL AND UNIVERSITY OF SOUTHERN CALIFORNIA Extension Course: Fractures in Children. March 27 and 28, 8:30 a.m. to 5:00 p.m., Orthopaedic Hospital, 2400 South Flower Street, Los Angeles. *Contact:* Robert Mazet, Jr., M.D., director of research, 2400 So. Flower St., Los Angeles 7.

AMERICAN ACADEMY OF GENERAL PRACTICE. Las Vegas, Nevada. April 6 through 13. *Contact:* Mr. Mac F. Cahal, executive director, Volker Blvd. at Brookside, Kansas City 12, Mo.

CALIFORNIA MEDICAL ASSISTANTS ASSOCIATION ANNUAL MEETING April 7 and 8, Sir Francis Drake Hotel, San Francisco. April 7: 9 a.m. to 5 p.m. April 8: 9 a.m. to 3 p.m. *Contact:* Helen Goldman, president, 693 Sutter Street, San Francisco.

MOUNT ZION HOSPITAL AND MEDICAL CENTER 75th Anniversary Homecoming Celebration, April 9 through April 13. *Contact:* J. R. Greenberg, M.D., coordinator, Medical Education, Mount Zion Hospital and Medical Center, San Francisco 15.

CALIFORNIA LEAGUE FOR NURSING AND STUDENT NURSES' ASSOCIATION OF CALIFORNIA Joint Convention. Hotel Biltmore, Los Angeles. April 12 through 14. *Contact:* Ruth Jorgensen, general director, California League for Nursing, 693 Sutter Street, San Francisco 2.

CALIFORNIA CHAPTER OF THE AMERICAN COLLEGE OF CHEST PHYSICIANS. Saturday, April 14 at the Fairmont Hotel, San Francisco. *Contact:* H. D. Peabody, Jr., M.D., secretary, 2001 Fourth Avenue, San Diego 1.

California Medical Association Annual Session, Fairmont Hotel, San Francisco. April 15 through 18, 1962. *Contact:* John Hunton, executive secretary, 693 Sutter St., San Francisco 2, or Ed Clancy, director of public relations, 2975 Wilshire Blvd., Los Angeles 5.

PACIFIC DERMATOLOGIC ASSOCIATION, INC., Fourteenth Annual Meeting. Fairmont Hotel, San Francisco, April 18 through 21. *C.M.A. Dermatological Section meeting* the morning of April 18. *Contact:* Edward J. Ringrose, M.D., 2828 Telegraph Avenue, Berkeley 5.

CALIFORNIA CONFERENCE OF LOCAL HEALTH OFFICERS Semiannual Meeting. State Department of Public Health, Berkeley, April 19 through 20. *Contact:* Donald G. Davy, M.D., State Department of Public Health, Berkeley.

WESTERN SECTION, AMERICAN UROLOGICAL ASSOCIATION 1962 Annual Convention meeting at Sheraton-Palace Hotel, San Francisco. April 23 through 26. *Contact:* John M. Dorsey, M.D., secretary-treasurer, 2865 Atlantic Avenue, Long Beach, or James Ownby, Jr., M.D., president, 516 Sutter Street, San Francisco.

SPRING CLINICS OF THE VALLEY CHILDREN'S HOSPITAL Postgraduate Course, April 26 through 28. Roosevelt High School Auditorium, Fresno. *Contact:* Mrs. L. B. Jacobson, administrative assistant, c/o Valley Children's Hospital, 3616 E. Shields, Fresno.

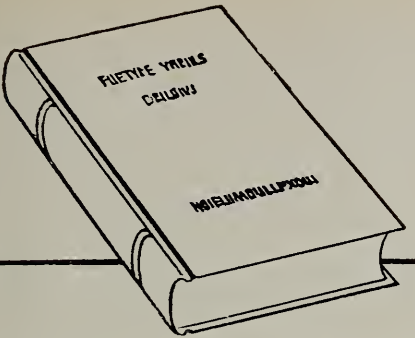
HAWAII MEDICAL ASSOCIATION 106th Annual Meeting. May 3 through 6. *Contact:* Lee McCaslin, executive secretary, Hawaii Medical Society, 510 So. Beretania Street, Honolulu 13, Hawaii.

AMERICAN ASSOCIATION OF PLASTIC SURGEONS, Hotel Del Coronado, Coronado. May 6 through 10. *Contact:* Thomas D. Cronin, M.D., executive secretary, 6615 Travis Street, Houston 25, Texas.

CALIFORNIA HEART ASSOCIATION ANNUAL MEETING. Rickey's Studio Inn, Palo Alto. May 18 through 20. *Contact:* Brian O'Connell, executive director, California Heart Association, 1370 Mission Street, San Francisco 3.

TENTH ANNUAL CLIFFORD D. SWEET SEMINAR OF CHILDREN'S HOSPITAL OF THE EAST BAY. May 25 and 26. *Contact:* Children's Hospital of the East Bay, 51st and Grove Streets, Oakland.

AMERICAN PUBLIC HEALTH ASSOCIATION WESTERN BRANCH'S Annual Meeting. Sheraton-Portland Hotel, Portland. June 4 through 8. *Contact:* Robert E. Mytinger, director, executive office, 693 Sutter Street, San Francisco 2.



THE PHYSICIAN'S *Bookshelf*

THE CERVIX UTERI—And Its Diseases—C. Frederic Fluhmann, B.A., M.D., C.M., Chief of Obstetrics and Gynecology, Presbyterian Medical Center, San Francisco, California; Clinical Professor of Obstetrics and Gynecology, Stanford University School of Medicine, Palo Alto, California. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1961. 556 pages, $14.00.

A detailed 556-page treatise devoted to the terminal 2.5 to 3 cm. of the uterus! One would wonder if it is possible to justify devoting this large a volume in a practical sense, to such a small part of the human anatomy. C. Frederic Fluhmann very competently demonstrates the importance of the uterine cervix in health and disease and provides us with a book to which all of us who deal with the cervix in general practice, in gynecologic specialty work or in gynecologic research can turn for both general and detailed material.

This book is well organized and is liberally illustrated with beautiful photomicrographs and three-dimensional reconstructions of the microscopic anatomy of the cervix. Histological anatomy and pathology are especially detailed and will provide sufficient material to satisfy the embryologist, the anatomist and the pathologist. The author draws on much of his own research work in the developmental anatomy of the cervix and it is in these sections that a great deal of original and valuable work is presented.

One of the finest features of the book is Fluhmann's management of the section on benign epithelial changes, squamous metaplasia, epidermidization and the epithelial dysplasias associated with chronic cervicitis. This area has been treated variously in the past by many different authors but here the changes are accurately presented and described in sufficient detail to leave a clear picture in the mind of the reader. Indeed, the gynecologic practitioner might find some criticism in the introduction of additional nomenclature such as squamous prosoplasia and squamocolumnar prosoplasia. The sections on epithelial dysplasias, carcinoma in situ, and invasive carcinoma are well presented and reflect the author's deep background of clinical experience. Once again the photomicrographs are numerous, are well selected and are of superb quality. The pathologist or the specialist preparing for his board examinations will find much of value in these sections. The full descriptive treatment given to squamocolumnar carcinoma, mesonephric duct carcinoma, melanocarcinoma and a host of other malignant types occurring in the cervix make it a fine reference book. In addition it is up to date. Outdated classifications such as that associated with sarcoma botryoides are reoriented so as to fit modern concepts.

The sections on diagnostic procedures, radiotherapy and surgical treatment of invasive carcinoma are basically descriptive and sound. Necessarily they are not treated in the same detail as the anatomical and pathological sections but they present up-to-date knowledge and are kept in clinical perspective. The clinician will find the section on radiotherapy to contain sufficient radiologic fundamentals and clinical detail to provide him with a thorough and up-to-date knowledge of this field. The surgical management of cervical cancer is not presented in the same detail but this approach is by no means neglected.

The cervix in pregnancy is considered in the last three chapters in somewhat the manner of an addendum or afterthought. Such placement is a bit out of place both from the standpoint of importance of this subject and the nature of the material described. Although such subjects as the changes in the cervix during pregnancy or cervical carcinoma in pregnancy might seem more logically presented in other sections of the book, the arrangement does allow the busy physician to look directly to these complications of pregnancy as a single unit.

In all, Dr. Fluhmann has devoted 35 years to the study of the uterine cervix. He has had a rich experience and has accumulated a wealth of material at the Stanford School of Medicine and at the Presbyterian Medical Center in San Francisco. The historical development and the very extensive bibliography in each section could have come only from a man with a long-standing and intimate knowledge of the subject. Those of us who have observed his very worthwhile publications on this subject increase in number and his investigations progress, knew that this volume was bound to appear. *The Cervix Uteri and Its Diseases* brings together a valuable fund of knowledge on an important subject. It is a book that the gynecologist or pathologist should have on his desk and that the general practitioner should refer to in ready reference.

J. G. Moore, M.D.

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REHABILITATION OF A CHILD'S EYES—Third Edition of Scobee's "Rehabilitation of a Child's Eyes"—Herbert M. Katzin, M.D., F.A.C.S., Director and Board Member, Eye Bank Laboratory, and Attending Surgeon, Manhattan Eye, Ear and Throat Hospital, New York, N. Y.; and Geraldine Wilson, R.N., Orthoptic Technician, New York, N. Y. The C. V. Mosby Company, St. Louis, Mo., 1961. 107 pages, $3.75.

The volume is the third edition of Scobee's "Rehabilitation of a Child's Eyes," now edited by Katzin. The book was written primarily for parents in an attempt to explain what the ophthalmologist was trying to accomplish in the treatment of strabismus. It also anticipates the questions that arise and answers them in terms that the parents can understand. With a better understanding of the situation, much better cooperation is possible between the ophthalmologist and the parents.

The illustrations are simple and well done so that complicated explanations are unnecessary.

As stated by Katzin in his foreword, pleoptics has come into favor since the new edition was written. It is to be regretted that a section on pleoptics could not have been included so that parents could better understand this new procedure.

It is highly recommended for parents whose children are under treatment for strabismus.

Frederick C. Cordes, M.D.

THE COMPLEAT PEDIATRICIAN — Eighth Revised Edition—Practical, Diagnostic, Therapeutic and Preventive Pediatrics—For the Use of General Practitioners, Pediatricians, Interns, and Medical Students—Wilburt C. Davison, M.A., D.Sc., M.D., James B. Duke Professor of Pediatrics, Duke University School of Medicine, and Pediatrician, Duke University Medical Center; and Jeana Davison Levinthal, B.A., M.D., Research Associate, Harvard Medical School. Printed by Seeman Printery for Duke University Press, Durham, N. C., 1961. $4.50 by check with order, or $4.75 on credit.

For those who, like this reviewer, have obtained all previous copies of *The Compleat Pediatrician,* or perhaps only one or two, who have learned to use it and are aware of its value and its limitations, the new eighth edition—the first since 1957—is an automatic must. Others should give it careful consideration and, in so doing, are likely to decide to add it to their shelves, or, as the authors suggest, put it into their bags. This is a unique volume—a comprehensive notebook covering amazingly well, if not quite "compleatly," the enormous field of clinical and preventive pediatrics. It is most impressive to find that the authors read and abstracted 3,250 references in preparing the new edition. The volume measures 6x9¼x¾ inches and weighs 21 ounces. The text is a marvel of condensation in the course of which obviously a certain amount of material has had to be omitted which could only be covered in texts several times as bulky; nevertheless, one searching for information on nearly any topic will rarely fail to find the main pertinent details herein.

Reviewers are expected to find faults as well as merits. It is easy enough to find minor faults in this book, but they are relatively unimportant and need not be mentioned. One major fault which persists in this edition should, however, be noted: The uncritical inclusion of nearly every therapeutic measure described in the recent literature. For lupus erythematosus disseminatus, for example, some 25 different agents are mentioned under Treatment, including two similar steroids and also simple "steroids." The pediatrician consulting this section for a program of therapy would certainly be confused and forced to look elsewhere for help. The fault recurs not infrequently throughout the book, which in this respect overreaches itself. It is not the intent, however, of the authors to propose this work as a substitute for other and larger texts or for the current literature.

The arrangement of the book and the excellent index make reference simple and rapid.

Harold K. Faber, M.D.

* * *

PRACTITIONER'S HANDBOOK—Edited by William A. R. Thomson, M.D., editor of The Practitioner. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pennsylvania, 1961. 711 pages, $12.50.

This volume is a British effort at postgraduate teaching for general practitioners. It is, essentially, a compilation of articles, published in *The Practitioner* since 1946 and revised either by the original authors or their successors. However, there has been comparatively little alteration in these revisions.

The objective of this book is not to give the latest news of the newest drugs but to provide the general practitioner with an authoritative, concise and practical review of long-accepted methods of diagnosis and treatment in clinical practice. The book is arranged to start with conception and work through old age. The coverage is admittedly unbalanced, with a great deal of attention devoted to diseases of women and children. (It devotes chapters to such problems as "The Child Who Won't Eat," "The Child Who Won't Walk," "The Child Who Won't Talk," etc.)

While *The Practitioner's Handbook* contains a lot of practical everyday knowledge, with emphasis on symptomatic therapy, this reviewer can recommend it only in a very restricted way to American general practitioners. A number of the articles are written by men with "only maybe knowledge" of their problems. There is considerable overlapping of the subjects and there are differences of opinion offered by different authors (which does not disturb the editor). And the lack of completeness makes it of limited value as a reference.

Edgar Wayburn, M.D.

* * *

THERAPEUTIC EXERCISES—Second Edition—Edited by Sidney Licht, M.D., Honorary Member, British Association of Physical Medicine, Danish Society of Physical Medicine, and the French National Society of Physical Medicine. Assisted by Ernest W. Johnson, M.D., Associate Professor of Physical Medicine and Rehabilitation, Ohio State University College of Medicine. Elizabeth Licht, Publisher, 360 Fountain Street, New Haven, Connecticut.

This book is the second edition, which is being published only three years after the first one. The first edition was extremely popular, having shown itself to be the best available medical text in this field. The second edition actually has little to offer over the first one. An appendix chapter has been enlarged, and one on "gait" has been added.

This second edition has not made the first one obsolete and those persons owning the first edition should keep it. Those persons not having read this text will find that the 37 individual chapters written by separate authors on all aspects of exercises, designed primarily for use with medical patients, are an excellent presentation of the subject. The strengths of this book lie in its presentation of basic material and of general clinical application. The weaknesses of the book lie when it attempts to apply this to certain clinical conditions, such as cerebral palsy or multiple sclerosis, in which there is so much individuality among patients that no general prescription can be given unless the patient is first analyzed.

This book should be read by all physicians who deal in neuromuscular or musculoskeletal diseases, and are concerned with their physical treatment. It should be in all libraries as part of a physical medicine section.

S. Malvern Dorinson, M.D.

* * *

THE EXERCISE ELECTROCARDIOGRAM IN OFFICE PRACTICE—E. Gray Dimond, M.D., F.A.C.P., Director, Institute for Cardiopulmonary Diseases, Scripps Clinic and Research Foundation, La Jolla, California. Charles C. Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1961. 169 pages, $10.00.

Dr. Dimond's monograph summarizes ten years' experience performing 1,000 exercise tests, with the view of determining their usefulness to the practicing physician. The author asks 16 pertinent questions concerning the exercise electrocardiogram and answers them, both from the literature and from his own experience. The exercise test itself is described in detail as well as the criteria for determining an abnormal response.

The second section consists of 68 typical case reports and reproductions of the electrocardiograph response to exercise, illustrating all the various responses that may occur. The book concludes with a bibliography of 98 references for further review.

The text is clear, the illustrations are well selected and printed, and the opinions presented are conservative and sound. The volume can be recommended to the practicing physician who wishes to take advantage of the current concept that electrocardiograms after exercise may permit diagnoses not possible from the resting record. As the author himself states, the monograph is not intended as a scientific appraisal of the physiological changes in the myocardium resulting from ischemia, but rather as evidence that an electrocardiogram after exercise not only adds to the clinical appraisal of a patient but, when done according to his method, is safe.

CLINICAL OBSTETRICS—Benjamin Tenney, M.D., Clinical Professor of Obstetrics and Gynecology, Harvard Medical School; Director of the Department of Obstetrics and Gynecology, The Boston City Hospital; and Brian Little, M.D., F.R.C.S. (C), Associate in Obstetrics and Gynecology, Harvard Medical School; Associate Director of the Department of Obstetrics and Gynecology, The Boston City Hospital; Obstetrician and Gynecologist, Boston Lying-in Hospital. W. B. Saunders Company, Philadelphia, Pennsylvania, 1961. 440 pages, $8.50.

This compact volume contains well-written clinical discussions of twenty-four topics selected from the larger array of subjects usually found in a standard textbook. It assumes a general background of obstetric knowledge on the part of the reader and is concerned in the main with current solutions for abnormal obstetrical problems, particularly in the light of a wide experience at the Boston City Hospital. The authors have aimed their remarks at the physician in private practice, who is likely to encounter abnormal obstetrical cases in such small numbers that he is unable personally to test various therapeutic procedures and sort the good from the poor. He needs to get from those in large teaching institutions the solid kind of advice that has withstood the test of clinical application.

In addition to strictly obstetrical matters, there are chapters on heart disease, diabetes, hypertension, pyelonephritis, blood incompatibilities and endocrine therapy in pregnancy. The style of writing is pleasant and lucid, and the views expressed are the sane, sensible, conservative ones to be anticipated from a New England source. There are relatively few illustrations, but the rather simple line drawings prepared especially for this book are both artistically excellent and didactically effective. Bibliographic lists have been omitted, although there are occasional references in footnotes to current papers of outstanding value.

This is on the whole a splendid book and can be recommended to all who practice obstetrics. It is small enough to tackle while in the supine position, and thus should be particularly helpful reading for house officers who are lying in wait for the next delivery.

Charles E. McLennan, M.D.

* * *

PSYCHIATRY — Biological and Social—Ian Gregory, M.A., M.D.(Camb.), P.Psych.(Tor.), M.P.H.(Mich.), Assistant Professor of Psychiatry, and Coordinator of Undergraduate Education in Psychiatry, University of Minnesota Medical School. W. B. Saunders Company, Philadelphia, Pennsylvania, 1961. 577 pages, $10.00.

This book is different from most textbooks of psychiatry in being composed of two parts: (1) Dealing with general principles; (2) with specific syndromes.

In the section on general principle Dr. Gregory deals with such varied topics as the definition of psychiatry, psychoanalysis and psychology, defense mechanisms, symptoms and syndrome, frequency and distribution of psychiatric disorders, various types of treatment, etiological factors (including some interesting data from studies of heredity and of social and cultural factors), psychiatry and the law, prevention and research.

In the section on specific syndromes, the author has organized his material relating to the various psychiatric disorders in an interesting way under such headings as classification, frequency and distribution, family history, personal history, mental examination, psychological evaluation, somatic investigations, differential diagnosis, treatment and etiology. There is an absence of the detailed, illustrative case histories and description of patients usually found in textbooks of psychiatry.

Dr. Gregory has carefully avoided emphasizing the approach of one or another school of psychiatry and has consistently maintained an eclectic approach. He has achieved his expressed intention of representing a balanced synthesis of American and European viewpoints and of presenting a great amount of material in a "scientific and systematic, descriptive and dynamic" manner that is designed to include both directive-organic and analytic psychological approach as to treatment.

His style is simple and his language clear; but his ambitious goal to wish to remain "scientific" leaves many questions unanswered and may disappoint those who are looking for specific answers. This, however, is more a reflection of the state, or stage, of psychiatric knowledge than a failure that can be attributed to the author.

Some chapters, like the one on marital problems, are weak, and may be criticized with some justification as "superficial."

As a textbook, it will not meet the needs of all departments of psychiatry, but it can certainly be used as a reference book by medical students and physicians alike who will find much of value and interest in it.

Norman Q. Brill, M.D.

* * *

EYE SYMPTOMS IN BRAIN TUMORS—Alfred Huber, M.D., Privat Dozent for Ophthalmology at the University of Zurich, Switzerland. With a foreword by Prof. H. Krayenbuhl, Director of the Neurosurgical Clinic, University of Zurich, Zurich, Switzerland. Translated by Stefan Van Wien, M.D., Associate, Department of Ophthalmology, Northwestern University Medical School, Chicago, Illinois. With a foreword to the English translation by Derrick Vail, B.A., M.D., D.Oph.(Oxon.), F.A.C.S., F.R.C.S.(Hon.), Professor and Director, Department of Ophthalmology, Northwestern University Medical School, Chicago, Illinois. The C. V. Mosby Company, St. Louis, Mo., 1961. 329 pages, $16.00.

The book is an English translation of Huber's book which was originally published in German. As pointed out by Vail in his foreword to the English edition, Huber, a neurologist and ophthalmologist, is a distinguished member of the remarkable group of Swiss ophthalmologists whose names are known throughout the world.

It was in Prof. Krayenbuhl's well-known neurosurgical clinic in Zurich that Dr. Huber obtained the necessary experience to write this excellent book. It is difficult to contain one's enthusiasm for a book of such quality. The author, Dr. Alfred Huber, is, in his field, an uncontested authority. Throughout the book can be recognized the experience and thoughtful judgment of a man who has worked in and has been intimately associated with one of the largest and most advanced neurological clinics in the world. Dr. Huber's book deals specifically with neuro-ophthalmology of brain tumors. He has divided his material into five chapters. One chapter deals with the neuro-ophthalmological examination. The second chapter deals with general symptoms of increased intracranial pressure, a third deals with the neuro-ophthalmological contributions to localization of tumor-like problems (aneurysm, brain abscess, etc.). The fourth is on types of tumors and eye symptoms. The fifth is on pseudotumors.

The author's coverage of all the eye problems encountered by the ophthalmologist and neurosurgeon is fundamental. The section on the diagnosis and differential diagnosis of all aspects of papilledema is classic.

The translator, Stefan Van Wien, has given us the author's beautifully direct and concise style, and he has avoided the involved and often cumbersome sentences that so often are present in translations.

The format of the book is excellent with good, easily readable type. The illustrations are outstanding, especially the reproductions of what obviously were unusually good fundus photographs. The bibliography is voluminous, and the index is adequate. The book is a "must" to students and practitioners of neurosurgery, neurology and ophthalmology.

Frederick C. Cordes, M.D.

INTRODUCTION TO ANESTHESIA—The Principles of Safe Practice—Second Edition—Robert D. Dripps, M.D., Professor and Chairman, Department of Anesthesiology, and James E. Eckenhoff, M.D., Professor of Anesthesiology, University of Pennsylvania Schools of Medicine; and Leroy D. Vandam, M.D., Clinical Professor of Anesthesia, Harvard Medical College. Line Drawings by Leroy D. Vandam, M.D. W. B. Saunders Company, Philadelphia, 1961. 413 pages, $8.00.

The original edition has been expanded and rewritten. New subjects have been added, including techniques of inhalation anesthesia, carbon dioxide absorption, the physiological effects of hypercarbia, special procedures such as hypothermia, hypnosis and deliberate hypotension, intravenous technique and therapy, respiratory resuscitation, pulmonary function, mechanical ventilation and medicine and the law.

In general the book is divided into seven main topics which consist of: (1) The preanesthetic period, (2) The day of anesthesia, (3) During operation, (4) The postoperative period, (5) Resuscitation (cardiac and respiratory), (6) The anesthetist as a consultant, (7) Special topics. Under these main topics most of the problems encountered by an anesthesiologist from his first interview with the patient and his evaluation of the risk and selection of the type of anesthetic indicated, through the actual administration and the postoperative recovery period are discussed in a lucid, concise manner. The techniques and methods described are those that have worked best for the authors and should be studied and evaluated by all students and practicing anesthesiologists.

CHARLES F. McCUSKEY, M.D.

* * *

DISTURBANCES OF HEART RATE, RHYTHM AND CONDUCTION—Eliot Corday, M.D., F.A.C.P., F.A.C.C., Assistant Clinical Professor of Medicine, School of Medicine, University of California, Los Angeles; Attending Staff, Cedars of Lebanon and Mt. Sinai Hospitals, Los Angeles; and David W. Irving, M.D., Clinical Assistant, School of Medicine, University of California, Los Angeles; Research Associate, Cedars of Lebanon Hospital, Los Angeles; Research Fellow, Los Angeles County Heart Association. W. B. Saunders Company, Philadelphia, Pennsylvania, 1961. 357 pages, $8.50.

This monograph is a relatively simplified version of the cardiac arrhythmias intended for medical students and clinicians. The authors include much of their previously published work relating the decrease in cardiac output and blood flow to the brain and to the kidney following experimentally produced arrhythmias. In addition, a number of new drawings have been prepared to explain their concept of the relationship between the mechanical and electrical events occurring during arrhythmia. Two hundred twenty-three figures and 467 references indicate the scope of the coverage.

The contents of the book are fairly conventional with the exception of two chapters, one on cardiac arrest and one on hemodynamic disturbances resulting from cardiac arrhythmias. In addition, there is a chapter consisting of only 30 pages covering all of the drugs used in the treatment of the arrhythmias. This last section permits only brief coverage of each of the important drugs, and only in a broad, general way are problems with the drugs discussed. One would have thought that in a text of this sort considerable discussion of the many difficulties presented by the use of such drugs as digitalis and quinidine would be clearly and adequately presented. The one of differentiation, for example, of the arrhythmias due to digitalis toxicity from the arrhythmias due to the underlying disease in patients who have received some digitalis, is a major problem confronting the clinician. The discussion of quinidine is incomplete, and the speed of administration recommended for intravenous quinidine on page 298 is probably excessive. The authors recommend 2 to 5 cc. of diluted quinidine per minute, whereas in our experience 1 to 2 cc. per minute is much safer. Furthermore, a misleading statement is made on page 263, where the authors advise quinidine gluconate be given very slowly intravenously in a dose of 0.65 gm. This is a very large dose if, by "very slowly" the reader interprets that quinidine should be given by injection over a 5- to 10-minute period. It should be stated that this should be given by infusion over the course of perhaps an hour. The authors recommend discontinuing quinidine several weeks after sinus rhythm is resumed in a patient with atrial fibrillation. This is true in a few cases in which the cause of the atrial fibrillation has been eliminated, but will result in recurrence of the fibrillation in most other patients. Continued maintenance dosage, therefore, is necessary in most patients.

By and large, the clinical discussions are sound, with only the variations in opinion that are inevitable in a discussion of such a difficult and controversial subject as the arrhythmias.

One would have hoped in a text which emphasized the pathophysiological changes of the arrhythmias to have seen a discussion of the new work on the electrical activity of single cardiac fibers and their changes with the cardiac drugs that influence the arrhythmias and help explain the mechanism underlying disturbances in rhythm. This work, correlated with changes in ionic flux of sodium and potassium, has greatly enlarged our understanding of the action of cardiac drugs and would be very helpful in a new book.

In general, the book can be recommended as a sound, uncomplicated account of the present status of our clinical knowledge of the arrhythmias which should be of considerable help to the practicing physician. It should serve as a ready reference to problems in the field, and the extensive bibliography will be helpful for those who wish to delve deeper. A point of interest with respect to the bibliography is the fact that the original references of the pioneers in the field are given, for which serious students will be most grateful.

MAURICE SOKOLOW, M.D.

* * *

THE DOCTOR BUSINESS—Revised Edition—Richard Carter. Doubleday & Company, Inc., 575 Madison Avenue, New York 22, New York, 1961. Dolphin Books, Paperback, 276 pages, 95 cents.

The revised edition of this book differs little from the earlier one. A few new aspects have been added.

It is a compendium of substantially all the vicious attacks which have been made upon the American Medical Association by anyone. The author presents them as if they were objective reporting of actual facts.

At the outset he uses an example which he admits to be exaggerated but then proceeds to belabor the American system of medicine on this basis. The prejudice of the author is obvious throughout.

Although he is a newspaper man, he poses as an expert in medicine and economics and uses false statements, distortions, half truths, quotations out of context, and misrepresentations to bolster his point of view. The reviewer has intimate knowledge of many of the matters dealt with in this book and is therefore in a position to recognize the false nature of the presentation as a whole. Occasionally, a transparent gesture is made in an effort to convince the reader of the objectivity of the statements made.

It is obvious the author desires to change the whole pattern of medicine in this country. The book has no value except to alert the medical profession to the variety of attacks it can expect from socializers, left wingers and irresponsible authors.

CALIFORNIA MEDICAL ASSOCIATION

Scientific Sessions

•

Live Television

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Motion Picture Symposia

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Meetings of the House of Delegates

91st Annual Session

1856

Fairmont Hotel

SAN FRANCISCO

April 15 to 18, 1962

COMMISSION ON CANCER
CALIFORNIA MEDICAL ASSOCIATION

PRE-CONVENTION CONFERENCES

San Francisco • Saturday, April 14, 1962

FAIRMONT HOTEL

Radiology

Hunt Room, Mezzanine Floor

Chairman	John Heald, M.D., San Francisco
Secretary	A. K. Briney, M.D., Whittier

THERAPY SESSION—9:30 a.m. to 11:30 a.m.

Cases with specific therapy problems will be presented. The audience is asked to participate actively.

DIAGNOSTIC SESSION—2:00 p.m. to 4:00 p.m.

Diagnostic cases with histories and films will be presented. Cases have been selected to illustrate specific problems in the radiological and clinical diagnosis of cancer. Audience participation and discussion are urgently requested.

Pathology

9:00 a.m. to noon • 2:00 p.m. to 4:30 p.m.

Venetian Room, Lobby Floor

Moderator: MALCOLM DOCKERTY, M.D., Rochester, Minnesota

This Pre-Convention Conference on Tumors of the Gastro-Intestinal Tract will be conducted under the chairmanship of Carl E. McCandless, M.D., San Francisco.

Members who wish slides and protocols for the conference are requested to register with Weldon K. Bullock, M.D., Registrar, Tumor Tissue Registry, C.M.A. Cancer Commission, Los Angeles County Hospital, 1200 N. State Street, Los Angeles 33.

Guests are invited to the Conference.

4:45 p.m.

Semi-annual meeting of California Society of Pathologists, L. John Tragerman, M.D., Los Angeles, presiding.

7:00 p.m.

Dinner meeting of the California Society of Pathologists.

Scientific Program

CALIFORNIA MEDICAL ASSOCIATION

Ninety-first Annual Session

Fairmont Hotel
SAN FRANCISCO
APRIL 15 to 18*
1962

***House of Delegates**
Opening Meeting
April 14
7:00 p.m.
Mark Hopkins Hotel

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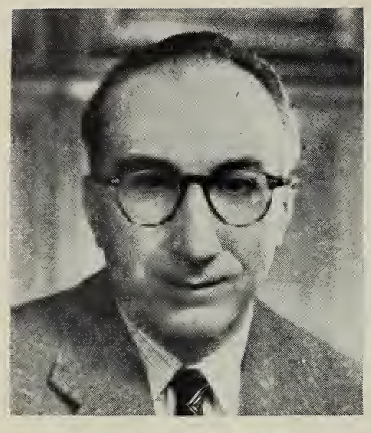
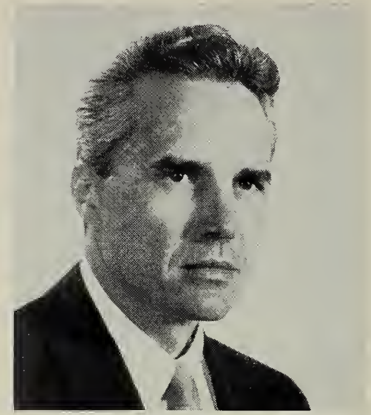
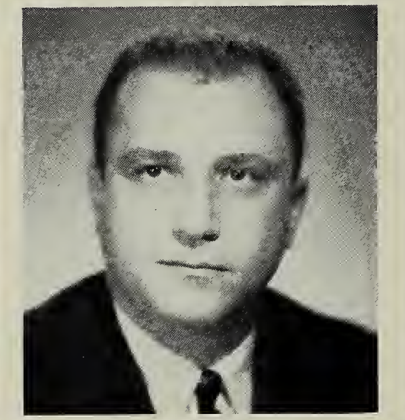

MICHAEL E. DeBAKEY


E. GREY DIMOND

MALCOLM B. DOCKERTY

LOUIS N. KATZ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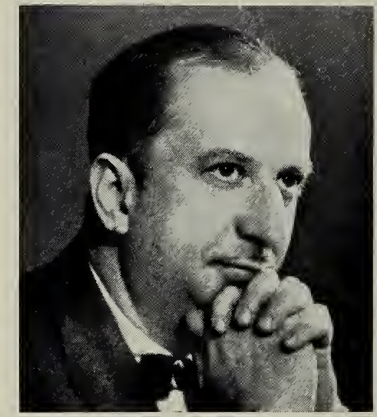

ALEXANDER S. NADAS

Surgery

MICHAEL E. DeBAKEY, M.D., Professor and Chairman of Department of Surgery, Baylor University College of Medicine, Houston.

Internal Medicine

E. GREY DIMOND, M.D., Director, Institute for Cardiopulmonary Diseases, Scripps Clinic and Research Foundation, La Jolla.

Pathology

MALCOLM B. DOCKERTY, M.D., Surgical Pathologist, Mayo Clinic, Rochester.

Cardiovascular Research

LOUIS N. KATZ, M.D., Director of Cardiovascular Research, Michael Reese Hospital and Medical Center, Chicago.

Anesthesiology

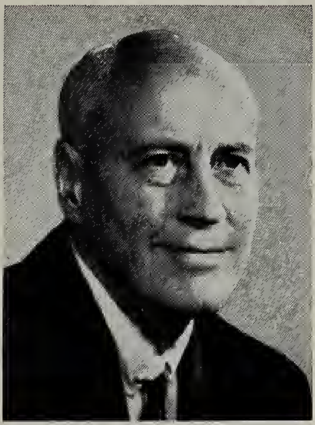
ARTHUR S. KEATS, M.D., Professor of Anesthesiology, Baylor University College of Medicine, Houston.

Pediatrics

ALEXANDER S. NADAS, M.D., Associate Clinical Professor of Pediatrics, Harvard Medical School, and Cardiologist, Children's Hospital Medical Center, Boston.

Guest Speakers: BASIC SCIENCE SESSION

WENDELL H. GRIFFITH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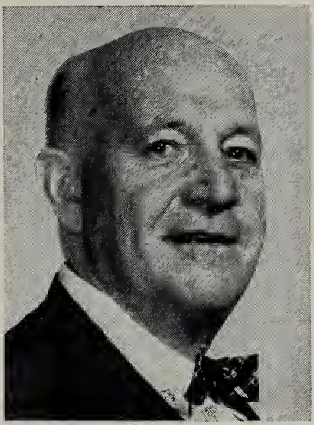
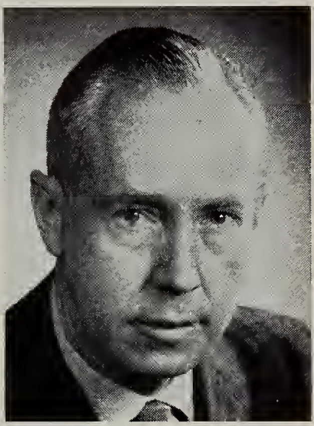

C. M. POMERAT


JOHN L. WEBB

Chemistry

WENDELL H. GRIFFITH, Ph.D., Professor and Chairman, Department of Physiological Chemistry, UCLA School of Medicine.

Anatomy

HORACE W. MAGOUN, Ph.D., Professor of Anatomy, Member of Brain Research Institute, UCLA School of Medicine.

Biology

C. M. POMERAT, Ph.D., Director, Division of Cellular Biology, Pasadena Foundation for Medical Research, and Clinical Professor of Pathology, Loma Linda University School of Medicine.

Pharmacology

JOHN L. WEBB, Ph.D., Professor and Head of Department of Pharmacology, USC School of Medicine.

SPECIAL GUESTS OF SECTIONS

Preventive Medicine and Public Health

C. A. SMITH, M.D., Assistant Surgeon General, U. S. Public Health Service, Atlanta, Georgia.

Radiology

GEORGE L. VOELZ, M.D., Medical Services Officer, Atomic Energy Commission, Idaho Falls, Idaho. Sponsored by the Pacific Roentgen Society.

Disaster Medical Care

JAMES R. HERZ, M.D., Member of the Civil Defense Committee, Nevada State Medical Association, Reno.

EDWARD TELLER, Ph.D., Associate Director, Lawrence Radiation Laboratory; Professor of Physics-at-Large, University of California, Berkeley.

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Harris, Norman M., Oakland 23
Hartman, Milton M., San Francisco 16
Hauger, Louis S., Pasadena 27
Haynes, Vital E., San Diego 31
Healy, Edward F., San Rafael 22
Henderson, Charles C., San Mateo 11
Herz, James R., Reno 11
Hesse, Frank E., Berkeley 27
Hill, Edward C., San Francisco 22
Hirschberg, Gerald G., Berkeley 26
Hopper, James Jr., San Francisco 12
Horan, Myron E., San Francisco 11
House, Leland, Los Angeles 19
Howard, Frederick, San Francisco 31
Hoyt, Robert S., Redwood City 22, 24
Hultin, Johan V., San Francisco 30

J

Jacobson, Wayne B., Los Angeles 28
Jones, Howard L., Palo Alto 19

K

Katz, Louis N., Chicago 10, 12, 13, 17
Kaufman, Joseph, Los Angeles 30
Kay, Jerome Harold, Los Angeles 12, 17, 25
Keats, Arthur S., Houston 12, 17
Kelly, Edward F., Livermore 31
Kennedy, William J., Oakland 11
King, Ruth M., Los Angeles 22
Koegler, Ronald R., Los Angeles 28
Kohlmoos, Heinrich, Oakland 19
Kuzma, O. T., Los Angeles 12

L

Larsen, Loren J., San Francisco 23
Lawless, Edward C., San Francisco 30
Leimbach, John H., San Francisco 21
Levin, Ralph, San Francisco 12
Lincoln, Charles S., Jr., Berkeley 18
Lindner, Harold H., San Francisco 30
Littman, Neil, Los Angeles 25
Lovin, Bailey J., Jr., Sherman Oaks 16
Luikart, Ralph J., II, Santa Barbara 18

M

MacLaggan, James, San Diego 25
Macpherson, Walter E., Los Angeles 25
Magidson, Oscar, Los Angeles 25
Magoun, Horace W., Los Angeles 11
Manning, Phil R., Los Angeles 25
Marmor, Leonard, Los Angeles 23
Marmorston, Jessie, Los Angeles 12
Maronde, Robert F., Pasadena 10
Martin, Howard F., Palo Alto 19
Mathewson, Carleton, Jr., San Francisco 14
McBain, Earle H., San Rafael 20
McCleve, Don E., Los Gatos 19
McDonnel, Gerald M., Los Angeles 29
McLaughlin, William L., San Francisco 30
McMillan, Thomas M., San Diego 28
McNaught, Robert, San Francisco 19
Meherin, J. Minton, San Francisco 21, 26
Meyers, Frederick, San Francisco 30
Mikkelsen, William P., Los Angeles 10, 33
Miller, J. B., Los Angeles 31
Mims, Matt, Los Angeles 30
Mitchell, Howard W., Berkeley 27
Mitchell, Winston A., San Jose 29
Moore, E. Vincent, La Mesa 31
Moore, J. G., Los Angeles 12
Moorman, Henry D., Pasadena 14
Morrissey, Edmund J., San Francisco 26

N

Nadas, Alexander, Boston 25
Nickel, Vernon L., Los Angeles 23
Norman, Frank, Santa Rosa 25

P

Pearman, Robert, Encino 30
Peck, Richard, San Diego 19
Perloff, Dorothee L., San Francisco 10
Perry, Jacquelin, Downey 23
Pevehouse, Byron C., San Francisco 28
Pickering, Paul P., San Diego 18
Pion, Ronald J., Los Angeles 22
Pomerat, C. M., Pasadena 11
Prentiss, Robert J., San Diego 31
Preston, John, Napa 11
Puntenny, R. E. H., Salinas 31

R

Raffel, Sidney, Stanford 16
Range, Robert, Sacramento 11
Reich, S. B., San Francisco 30
Richards, Victor, San Francisco 33
Robinson, Joseph L., Los Angeles 27
Robinson, Saul J., San Francisco 25
Rosenberg, Milton L., San Francisco 30
Ross, Stanley, Van Nuys 30
Rouff, Elliott A., Los Angeles 27
Rubin, David, Los Angeles 26
Rubin, J. Salem, Los Angeles 30

S

Sampson, John J., San Francisco 13
Sayles, David J., San Diego 29
Schottstaedt, Edwin R., San Francisco 23
Seftel, Daniel, Santa Cruz 19
Selzer, Arthur, San Francisco 13
Shaffer, Robert N., San Francisco 20
Shaw, Edward B., San Francisco 27
Shoor, Mervyn, San Jose 28
Shumway, Norman E., Palo Alto 25
Simon, Harold J., Palo Alto 10
Smart, Bret W., Oakland 23
Smart, William R., San Rafael 30
Smith, C. A., Atlanta 27
Sokolow, Maurice, San Francisco 10
Sommers, Sheldon C., La Jolla 22, 24
Spitalny, August, San Francisco 30
Stamey, Thomas A., Palo Alto 10
Starr, Paul, Los Angeles 13
Stein, Justin J., Los Angeles 11
Straatsma, Bradley R., Los Angeles 20

T

Talbott, Grace, San Francisco 16
Teller, Edward, Berkeley 11
Thoshinsky, Morton J., San Francisco 30
Tjan, Hoen Lay, San Francisco 12
Tobias, G. James, San Francisco 12
Treanor, Walter J., San Francisco 26
Trowbridge, Dwight H., Fresno 20
Turnbull, Frederick, Los Angeles 19

U

Unger, Allan, San Francisco 30

V

Vaudagna, James S., San Jose 29
Voelz, George L., Idaho Falls, Idaho 29
Volpe, Frank J., San Jose 29
Vreeland, Robert W., San Francisco 28

W

Wahl, Charles William, Los Angeles 28
Wall, Allen, San Francisco 30
Warren, Stafford L., Los Angeles 25
Webb, John, Los Angeles 11
Weinberg, Joseph A., Long Beach 14
Welch, Eli, San Francisco 21, 26
Whalen, T. J., San Francisco 30
White, David, Los Angeles 19
Wilbur, Dwight L., San Francisco 14
Willson, Prentiss, Santa Maria 22
Winsor, Travis, Los Angeles 10
Wylie, Edwin J., San Francisco 10

Y

Yeager, Charles L., San Francisco 28
Younger, Carl B., Los Angeles 28

Z

Zimmerman, Murray C., Whittier 18

Information

BADGES. It is important that badges be worn at all times. Admission to all scientific meetings and exhibit areas is by badge only.

COUNCIL. Conquistador Room, Mark Hopkins Hotel. The first meeting of the Council will be held Saturday, April 14 at 9:30 a.m. Further meetings will be held each morning at 7:30 a.m.

DELEGATES. For list of delegates, meeting times, places and agenda, see pages 47 to 52.

EMERGENCY CALLS AND MESSAGES: Convention Emergency Call Number: YU 6-2896—9:00 a.m. to 5:00 p.m.

MESSAGE CENTER (YU 6-2896)—**Provided through the courtesy of the Pacific Telephone and Telegraph Company**—Registration Desk, Lobby of Grand Ballroom —Open 9:00 a.m. to 5:00 p.m.—The Association will *ATTEMPT* to transmit messages to the individual physician. Each physician must notify his own office of the exact times and meetings he plans to attend, and the convention number.

TELEVISION PROGRAMS AND MEDICAL MOTION PICTURES will be shown in the Terrace Room, Terrace Floor. See program synopses, page 33.

EXHIBITS. Technical Exhibits — Grand Ballroom, Lower Level, Fairmont Tower. See pages 34 to 43.

Scientific Exhibits—Garden Room, Lobby Floor. See list on page 32.

You are urged to visit and attend all exhibits.

MEETING TIMES AND PLACES. See chart on page 9 for exact times and places of general and section meetings.

REGISTRATION. Registration and information desks are located in the Main Lobby of the Fairmont Hotel and in the Grand Ballroom Foyer, Lower Level, Fairmont Tower. *All members, guests and visitors are requested to register immediately on arrival.* There is no charge for registration. Registration desks are open Saturday through Wednesday. *Admission to the general and section sessions and exhibit areas is by badge only.*

QUALIFICATIONS/REQUIREMENTS FOR REGISTRATION. (a) All M.D.'s with credentials showing that they hold valid license to practice medicine. (Membership card in C.M.A.; county medical society/association or A.M.A. membership card.) (b) Medical students will be admitted upon presentation of credentials from their medical schools identifying them as medical students. (A membership card of the Student American Medical Association or letter from their dean's office.) (c) Medical secretaries will be admitted upon presentation of a letter from the physician-employer. (d) Pharmacist mates and other military personnel of a like grade will be admitted upon presentation of a letter requesting their admittance, written by their commanding officer. (e) Dentists (D.D.S.), doctors of veterinary medicine (D.V.M.), registered nurses (R.N.), student nurses, x-ray technicians, laboratory technicians, dietitians, allied public health personnel, and others will be admitted provided they have proper identification. (f) *All questions on admission will be passed upon by a member of the Committee on Registration who will be present at the desk.*

Other Meetings and Entertainment

• SATURDAY, APRIL 14

C.M.A. HOUSE OF DELEGATES OPENING SESSION —Peacock Court and Room of the Dons, Mark Hopkins Hotel, 7:00 p.m.

C.M.A. Cancer Commission Conferences on Radiology and Pathology—Venetian Room, Pathology; Hunt Room, Radiology; 9:00 a.m. to 4:30 p.m.

California Society of Pathologists—Venetian Room, Semi-annual Meeting, 4:45 p.m.

California Society of Pathologists Dinner Meeting— 7:00 p.m.

California Chapter of the American College of Chest Physicians—Meeting: 9:00 a.m. to 5:00 p.m., Gold Room. Luncheon: Crystal Room, noon.

California Society of Anesthesiologists House of Delegates—California Room, 9 a.m. to 5 p.m.

• SUNDAY, APRIL 15

PRESIDENTS' RECEPTION AND DINNER DANCE— Reception, 7 p.m., Crystal and Fountain Rooms; Dinner-Dance, Venetian Room, Fairmont Hotel, 8:00 p.m. Formal dress optional. Honoring the Presidents of the California Medical Association and the Woman's Auxiliary. Tickets on sale in the Main Floor Lobby.

C.M.A. Section on Allergy and California Society of Allergy Luncheon—California Room, 12:30 p.m.

C.M.A. Section on Orthopedics Luncheon—Green Room, Lobby Floor, noon.

California Medical Eye Council Meeting—Far East Room, 10:00 a.m.

• MONDAY, APRIL 16

County Society Presidents Breakfast—Florentine Room, 7:30 a.m.

C.M.A. Past Presidents Luncheon—Twentieth Century Room, noon.

A.M.A. Delegates Meeting—State Room, 1 p.m.

Bureau of Medical Economics Managers Meeting— Far East Room, 10:00 a.m. to 4:00 p.m.

California Society of Internal Medicine Regional Committees Luncheon Meeting—Florentine Room, 12:00 p.m.

• WEDNESDAY, APRIL 18

Pediatricians Luncheon—California Room, Mezzanine Floor, 12:15 p.m. Advance reservations necessary. Information and Reservations may be obtained from Bruce Jessup, M.D., 2151 Berkeley Way, Berkeley; Telephone THornwall 3-7900, Extension 316.

Pacific Dermatologic Association—Venetian Room, Reception, 6:30 p.m.

C.P.S. Board Luncheon—Green Room, noon.

C.M.A. ANNUAL MEETING—1962 SCIENTIFIC SESSIONS

FAIRMONT HOTEL	Sunday, April 15		Monday, April 16		Tuesday, April 17		Wednesday, April 18	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
Venetian Room Lobby Floor		**2 p.m.** General Meeting Occlusive Arterial Disease		**2 p.m.** General Meeting Diagnosis, Treatment of Hypertension	**9:30 a.m.** General Meeting Thromboembolism Spotlight on Medicine	**2 p.m.** Basic Medical Science		
Fountain Room Lobby Floor	**9:30 a.m.** Pathology Obstetrics and Gynecology	**2 p.m.** Ear, Nose and Throat	**9:30 a.m.** Industrial Medicine Physical Medicine General Practice				**9:30 a.m.** Pediatrics Internal Medicine General Practice Pediatric Cardiology	
Crystal Room Lobby Floor	**9:30 a.m.** Anesthesiology Internal Medicine		**VISIT THE TECHNICAL EXHIBITS**				**9:30 a.m.** Dermatology	**2 p.m.** Pediatrics Internal Medicine General Practice Preventive Medicine Future "Family Doctor"
Green Room Lobby Floor	**9:30 a.m.** Orthopedics	**2 p.m.** Obstetrics and Gynecology						
Hunt Room Mezzanine	**9:30 a.m.** Radiology	**2 p.m.** Radiology	**9:30 a.m.** Internal Medicine				**9:30 a.m.** Psychiatry and Neurology	**2 p.m.** Psychiatry and Neurology
California Room Mezzanine	**9:30 a.m.** Allergy	**12:30 p.m.** Allergy Luncheon and Business Meeting		**2 p.m.** Physical Medicine	**9:30 a.m.** Urology	**2 p.m.** Urology		
Vanderbilt Room Terrace Floor	**9:30 a.m.** General Surgery	**2 p.m.** Eye	**9:30 a.m.** Disaster Medical Care				**9:30 a.m.** Preventive Medicine and Public Health	
Terrace Room Terrace Floor		**2 p.m. & 8 p.m.** Film Symposium	**9:30 a.m.-Noon** Television from Presbyterian Medical Center	**2 p.m. & 8 p.m.** Film Symposium	**9:30 a.m.-Noon** Television from Presbyterian Medical Center	**2 p.m. & 8 p.m.** Film Symposium	**9:30 a.m.-12:45** Television from Presbyterian Medical Center	**2 p.m.** Film Symposium
	Sunday Evening ***Presidents' Dinner Dance*** 7 p.m. Reception, Crystal-Fountain Room 8 p.m. Dinner-Dance, Venetian Room					**Afternoon*** **Mark Hopkins Hotel** Peacock Court **House of Delegates**	**9:30 a.m.** **Mark Hopkins Hotel** Peacock Court **House of Delegates**	

TECHNICAL EXHIBITS—Grand Ballroom, Lower Level, Fairmont Tower (California Street Entrance).
SCIENTIFIC EXHIBITS—Garden Room, Lobby Floor.

COUNCIL OF THE C.M.A. MEETS DAILY AT 7:30 A.M. IN THE CONQUISTADOR ROOM, MARK HOPKINS HOTEL.

***Opening meeting, House of Delegates, 7:00 p.m., Saturday, April 14, Peacock Court, Mark Hopkins Hotel.**

SCIENTIFIC SESSIONS

GENERAL MEETINGS

FIRST GENERAL MEETING

SUNDAY, APRIL 15

2:00—Venetian Room, Lobby Floor

Moderator: William P. Mikkelsen, M.D., Los Angeles
Chairman, Section on General Surgery

Management of Occlusive Arterial Disease

2:00—**The Surgical Management of Carotid and Visceral Arterial Occlusive Disease**—Michael E. DeBakey, M.D., Professor and Chairman of Department of Surgery, Baylor University College of Medicine, Houston, by invitation.

2:30—**The Surgical Management of Aortic, Iliac and Femoral Occlusive Disease**—Edwin J. Wylie, M.D., Vice Chairman of Department of Surgery, University of California School of Medicine, San Francisco.

3:00—**Cine-Angiocardiography; Its Uses and Limitations**—E. Grey Dimond, M.D., Director, Institute for Cardiopulmonary Diseases, Scripps Clinic and Research Foundation, La Jolla, by invitation.

3:20—**The Medical Management of Occlusive Arterial Disease**—Travis Winsor, M.D., Associate Clinical Professor of Medicine, University of Southern California School of Medicine, Los Angeles.

3:40— **Panel Discussion**

Moderator: Maurice Sokolow, M.D.
Professor of Medicine and Chief, Cardiovascular Division, University of California School of Medicine, San Francisco

Members of Panel: Michael E. DeBakey, M.D., Houston; Edwin J. Wylie, M.D., San Francisco; Travis Winsor, M.D., Los Angeles; John E. Adams, M.D., San Francisco, Chairman, Division of Neurological Surgery, University of California School of Medicine; E. Grey Dimond, M.D., La Jolla.

SECOND GENERAL MEETING

MONDAY, APRIL 16

2:00—Venetian Room, Lobby Floor

Moderator: Clifford B. Cherry, M.D., Los Angeles
Chairman, Section on Internal Medicine

New Approaches to Diagnosis and Treatment of Hypertension

2:00—**Diagnosis of Surgically Reversible Renal Hypertension**—Michael E. DeBakey, M.D., Professor and Chairman of Department of Surgery, Baylor University School of Medicine, Houston, by invitation.

2:30—**Newer Concepts in Relation to Hypertension**—Louis N. Katz, M.D., Director of Cardiovascular Research, Michael Reese Hospital and Medical Center, Chicago, by invitation.

3:00—**Use of Newer Antihypertensive Drugs**—Robert F. Maronde, M.D., Associate Clinical Professor of Medicine, University of Southern California School of Medicine, Los Angeles.

3:30—**Intermission.**

3:40— **Panel Discussion**

Moderator: Dorothee L. Perloff, M.D.
Clinical Instructor of Medicine, University of California School of Medicine, San Francisco

Members of Panel: Michael E. DeBakey, M.D., Houston; Louis N. Katz, M.D., Chicago; Robert F. Maronde, M.D., Pasadena; Thomas A. Stamey, M.D., Palo Alto, Chief, Division of Urology, Stanford University School of Medicine, by invitation.

THIRD GENERAL MEETING

TUESDAY, APRIL 17

9:30—Venetian Room, Lobby Floor

Moderator: William P. Mikkelsen, M.D., Los Angeles
Chairman, Section on General Surgery

Thromboembolism

9:30—**Long-Term Anticoagulant Therapy**—George C. Griffith, M.D., Professor of Medicine (Cardiology), University of Southern California School of Medicine, Los Angeles.

10:15—**Present Status of the Use of Fibrinolytic Agents in Cardiovascular Disease**—Louis N. Katz, M.D., Director of Cardiovascular Research, Michael Reese Hospital and Medical Center, Chicago, by invitation.

11:00—**Intermission.**

11:10—California Medical Association Spotlight on Medicine 1962

11:10—**The New Penicillins**—Harold J. Simon, M.D., Palo Alto, Assistant Professor of Medicine and Medical Microbiology, Stanford School of Medicine, by invitation.

12:00—**Adjourn.**

FOURTH GENERAL MEETING

Basic Science Session

TUESDAY, APRIL 17

2:00—Venetian Room, Lobby Floor

Moderator: CLIFFORD B. CHERRY, M.D., Los Angeles
Chairman, Section on Internal Medicine

2:00—**The Fat Problem—Critical Biochemical Appraisal**—Wendell H. Griffith, Ph.D., Professor and Chairman, Department of Physiological Chemistry, U.C.L.A. School of Medicine, Los Angeles, by invitation.

2:30—**Tissue Culture in Modern Medicine**—C. M. Pomerat, Ph.D., Director, Division of Cellular Biology, Pasadena Foundation for Medical Research, and Clinical Professor of Pathology, Loma Linda University School of Medicine, Los Angeles, by invitation.

3:00—**Intermission.**

3:10—**The Effects of Some Steroids on Cardiac Function**—John L. Webb, Ph.D., Professor of Pharmacology, University of Southern California School of Medicine, Los Angeles, by invitation.

3:40—**Brain Mechanisms for Innate Behavior**—Horace W. Magoun, Ph.D., Professor of Anatomy, Lecturer in Medical History, and Member of Brain Research Institute, U.C.L.A. School of Medicine, Los Angeles, by invitation.

SPECIAL MEETING

Disaster Medical Care

MONDAY, APRIL 16

9:30—Vanderbilt Room, Terrace Floor

General Chairman: JUSTIN J. STEIN, M.D., Los Angeles
Presiding: WAYNE P. CHESBRO, M.D., Berkeley

9:30—**Address of Welcome**—Warren L. Bostick, M.D., President, California Medical Association, San Rafael.

9:35—**Present and Future Disaster Medical Care Planning**

Moderator: Robert Range, M.D., Sacramento

1. **Interstate Level**—James R. Herz, M.D., Reno, Nevada, by invitation.
2. **County Level**—Charles C. Henderson, M.D., San Mateo.

10:00—**The Allied Health Services.**

Moderator: William J. Kennedy, M.D., Oakland

1. **California Hospital Association**—Sister Mary Eucharia, San Diego, by invitation.
2. **California Nurses Association**—Myra G. Faraday, R.N., San Francisco, by invitation.
3. **California Dental Association**—Myron E. Horan, D.D.S., San Francisco, by invitation.
4. **California Pharmaceutical Association**—John Preston, Ph.D., Napa, by invitation.

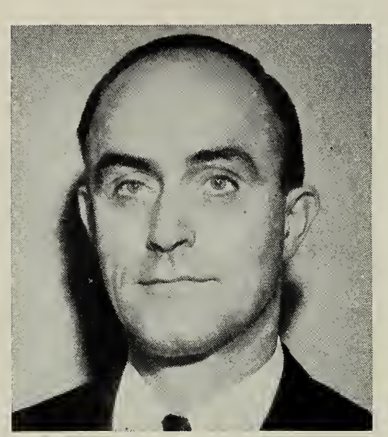
11:00—**Medicine and Civil Defense**—Edward Teller, Ph.D., Associate Director, Lawrence Radiation Laboratory; Professor of Physics-at-Large, University of California, Berkeley, by invitation.

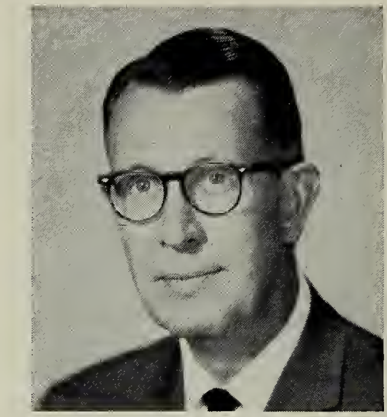
12:00—**Disaster Medical Care—A Look at the Future**—Justin J. Stein, M.D., Los Angeles.

12:10—**The Doctor and the Shelter**—Cecil H. Coggins, M.D., Sacramento, by invitation.

INTERNAL MEDICINE

Chairman................Clifford B. Cherry, M.D., Los Angeles
Secretary..................Glenn A. Pope, M.D., Sacramento
Assistant Secretary......Harney M. Cordua, Jr., M.D., San Diego


CLIFFORD B. CHERRY
Chairman


GLENN A. POPE
Secretary

SUNDAY, APRIL 15

9:30—Crystal Room, Lobby Floor

Joint Meeting with Section on Anesthesiology

Anesthesiology and Cardiovascular Surgery

9:30—**Anesthesia for Cardiovascular Surgery**—Arthur S. Keats, M.D., Professor of Anesthesiology, Baylor University College of Medicine, Houston, by invitation.

10:00—**Pathophysiological Considerations in Cardiac Surgery**—Louis N. Katz, M.D., Director of Cardiovascular Research, Michael Reese Hospital and Medical Center, Chicago, by invitation.

10:30—**Present Day Use of Mild, Moderate, and Profound Hypothermia for Cardiac Surgery**—Jerome Harold Kay, M.D., Chief of Cardiovascular Surgery, U.S.C. School of Medicine, Los Angeles.

11:00— **Panel Discussion**

Anesthesiology and Cardiovascular Surgery

Moderator: John B. Dillon, M.D., Professor of Anesthesiology, U.C.L.A. School of Medicine, Los Angeles

Panelists: Arthur S. Keats, M.D., Houston; Louis N. Katz, M.D., Chicago; Jerome Harold Kay, M.D., Los Angeles; Sol Bernstein, M.D., Instructor in Medicine, Los Angeles; Philip J. Bailey, M.D., Anesthesiologist, Presbyterian Medical Center, San Francisco; Adjunct Associate Clinical Professor of Anesthesiology, Stanford University School of Medicine, Palo Alto.

SUNDAY, APRIL 15

2:00—Venetian Room, Lobby Floor

First General Meeting

Management of Occlusive Arterial Disease

For Program, see General Meetings

MONDAY, APRIL 16

9:30—Hunt Room, Mezzanine Floor

9:30—**Clinical Application of the Endogenous Creatinine Clearance in Renal Insufficiency**—G. James Tobias, M.D.; Ralph Levin, M.D.; Hoen Lay Tjan, M.D., by invitation; and James Hopper, Jr., M.D., Department of Medicine, University of California School of Medicine, San Francisco.

A technique of measuring creatinine clearance in various forms of kidney disease. A valuable guide in the clinical study of patients with renal failure.

9:45—**Effect of Estrogen Treatment on the Incidence of Strokes and New Myocardial Infarctions in Patients with Coronary Artery Disease**—Jessie Marmorston, M.D.; F. J. Moore, M.D., by invitation; and O. T. Kuzma, M.D., University of Southern California School of Medicine, Los Angeles.

Continuous administration of conjugated equine estrogens in men recovered from one or more myocardial infarctions markedly decreases the incidence of strokes and subsequent infarctions.

10:00—**Experiences with Unilateral Renal Arterial Disease**—E. Grey Dimond, M.D., La Jolla.

Dr. Dimond, a national authority in cardiovascular disease, is now Director of the Institute for Cardiopulmonary diseases, Scripps Clinic and Research Foundation in La Jolla.

10:30—**Action of Digitalis in Latent Cardiac Failure** Arthur Selzer, M.D., Clinical Professor of Medicine, Stanford University School of Medicine; Director, Cardiopulmonary Laboratory, Presbyterian Medical Center, San Francisco.

Stresses the importance of digitalis in the treatment of heart failure.

10:50—**Intermission and Business Meeting.**

11:00—**Present Status of the Management of Atherosclerosis**—Louis N. Katz, M.D., Director of Cardiovascular Research, Michael Reese Hospital and Medical Center, Chicago, by invitation.

A subject of current interest discussed by an outstanding authority with years of interest and experience in this field.

11:30—**Relation of Potassium to Digitalis Effectiveness and Toxicity**—John J. Sampson, M.D., Clinical Professor of Medicine, University of California School of Medicine, San Francisco.

Reemphasizes the importance of potassium in relation to the effect of digitalis on the myocardium.

12:00—**The Recognition of Treatment of Subclinical Hypothyroidism**—Paul Starr, M.D., Emeritus Professor of Medicine, University of Southern California School of Medicine, Los Angeles.

Dr. Starr draws our attention to a frequently overlooked entity which responds readily to specific therapy.

MONDAY, APRIL 16

2:00—Venetian Room, Lobby Floor

Second General Meeting

New Approaches to Diagnosis and Treatment of Hypertension

For Program, see General Meetings

TUESDAY, APRIL 17

9:30—Venetian Room, Lobby Floor

Third General Meeting

Thomboembolism
and
California Medical Association Spotlight on Medicine 1962

The New Penicillins

For Program, see General Meetings

TUESDAY, APRIL 17

2:00—Venetian Room, Lobby Floor

Basic Science Session

For Program, see General Meetings

WEDNESDAY, APRIL 18

9:30—Fountain Room, Lobby Floor

Joint Meeting with the Section on Pediatrics

Treatment of Congenital Heart Disease

For Program, see Section on Pediatrics

WEDNESDAY, APRIL 18

2:00—Crystal Room, Lobby Floor

Joint Meeting with the Sections on Pediatrics, General Practice and Preventive Medicine and Public Health

Training Physicians to Meet California's Health Needs

Who Will Be the "Family Doctors" of the Future?

For Program, see Section on Pediatrics

REGISTRATION

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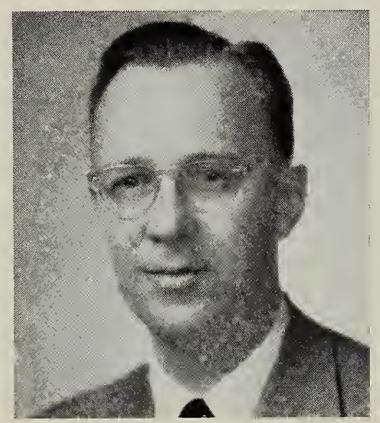
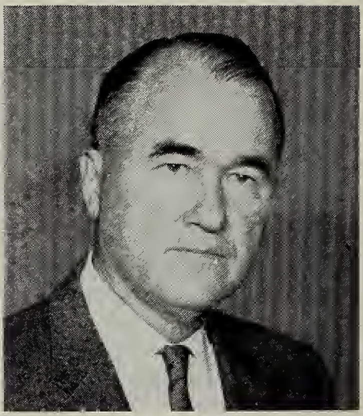
GENERAL SURGERY

Chairman	William P. Mikkelsen, M.D., Los Angeles
Secretary	R. Bruce Henley, M.D., Oakland
Assistant Secretary	David B. Hinshaw, M.D., Los Angeles



WILLIAM P. MIKKELSEN
Chairman



R. BRUCE HENLEY
Secretary

SUNDAY, APRIL 15

9:30—Vanderbilt Room, Terrace Floor

9:30— **Panel Discussion**

Hiatus Hernia—Medical and Surgical Management with New Surgical Techniques

Moderator—Edwin Clausen, M.D., Oakland

Members of the Panel:

- Dwight L. Wilbur, M.D., San Francisco, Internist.
- David J. Dugan, M.D., Oakland, Thoracic Surgeon.
- Carleton Mathewson, Jr., M.D., San Francisco, General Surgeon.
- Joseph A. Weinberg, M.D., Long Beach, General Surgeon.

11:00—Management of Perforated Peptic Ulcer—Michael DeBakey, M.D., Houston, Texas, by invitation.

11:30—Management of Gastrojejunocolic Fistula—Success or Failure?—Cooper Davis, M.D., Oakland.

11:45—Experiences with 5-Fluorouracil in the Treatment of Metastatic Breast Cancer—Henry D. Moorman, M.D., and Eugene W. Demaree, M.D., Pasadena.

12:00—Business Meeting.

SUNDAY, APRIL 15

2:00—Venetian Room, Lobby Floor

First General Meeting

Management of Occlusive Arterial Disease

For Program, see Section on General Meetings

VISIT SCIENTIFIC AND TECHNICAL EXHIBITS

GENERAL PRACTICE

Chairman..............Antonio J. Franzi, M.D., San Francisco
Secretary...............A. Norton Donaldson, M.D., Santa Ana
Assistant Secretary........Herbert A. Holden, M.D., San Leandro

ANTONIO J. FRANZI
Chairman

A. NORTON DONALDSON
Secretary

In order not to conflict with the General Meetings or with the Joint Meetings with the Sections on Pediatrics, Industrial Medicine and Physical Medicine, which it helped to arrange, the Section on General Practice will not conduct a scientific program of its own.

SUNDAY, APRIL 15

2:00—Venetian Room, Lobby Floor

First General Meeting

Management of Occlusive Arterial Disease

For Program, see General Meetings

MONDAY, APRIL 16

9:30—Fountain Room, Lobby Floor

Joint Meeting with Sections on Industrial Medicine and Surgery, and Physical Medicine

Symposium

The Back

Moderator: Leon Desimone, M.D., Los Angeles

For Program, see Section on Industrial Medicine and Surgery

11:30—Rear Portion of Fountain Room

11:30—Business Meeting and Election of Officers, Section on General Practice.

MONDAY, APRIL 16

2:00—Venetian Room, Lobby Floor

Second General Meeting

New Approaches to Diagnosis and Treatment of Hypertension

For Program, see General Meetings

TUESDAY, APRIL 17

9:30—Venetian Room, Lobby Floor

Third General Meeting

Thromboembolism
and
C.M.A. Spotlight on Medicine 1962

The New Penicillins

For Program, see General Meetings

TUESDAY, APRIL 17

2:00—Venetian Room, Lobby Floor

Basic Science Session

For Program, see General Meetings

WEDNESDAY, APRIL 18

Joint Meeting with the Sections on Pediatrics and Internal Medicine

Treatment of Congenital Heart Disease

For Program, see Section on Pediatrics

WEDNESDAY, APRIL 18

2:00—Crystal Room, Lobby Floor

Joint Meeting with the Sections on Pediatrics, Internal Medicine and Preventive Medicine and Public Health

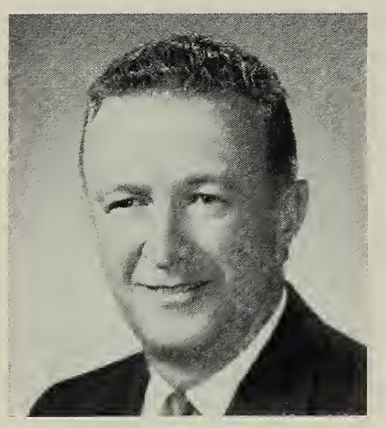
Training Physicians to Meet California's Health Needs

Who Will Be the "Family Doctors" of the Future?

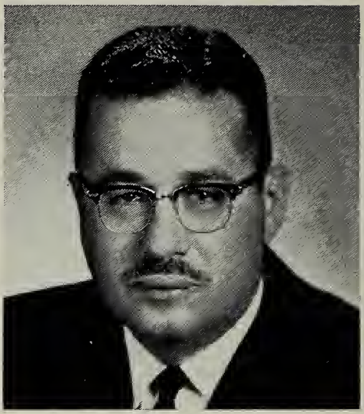
For Program, see Section on Pediatrics

ALLERGY

Chairman..................Gardner S. Stout, M.D., San Mateo
Secretary..............Jerome J. Sievers, M.D., Sherman Oaks
Assistant Secretary.........Walter R. MacLaren, M.D., Pasadena



GARDNER S. STOUT
Chairman



JEROME J. SIEVERS
Secretary

SUNDAY, APRIL 15

9:30—California Room, Mezzanine Floor

9:30—**Heparin in the Treatment and Prevention of Thromboembolic Phenomena in Severe Asthma Treated with ACTH or Glucocorticoid**—Milton M. Hartman, M.D., San Francisco.
Discussion.

9:55—**The Use and Abuse of Theophylline in the Treatment of Bronchial Asthma in Children**—Bailey J. Lovin, Jr., M.D., Sherman Oaks.
Discussion.

10:20—**Recess.**

10:30—**Electrophoretic Studies of the Tears of Allergic Patients**—Olive Erickson, M.D., and Grace Talbott, M.D., San Francisco.
Discussion.

10:55—**A Comparative Clinical Evaluation of the Treatment of Hay Fever with (a) Aqueous Extracts, (b) Alum Precipitated Extracts, and (c) Water in Oil Emulsions**—M. Coleman Harris, M.D., San Francisco.
Discussion.

11:20—**The Cellular Origin of the Hypersensitive Response**—Sidney Raffel, M.D., Stanford, by invitation.

12:00—**Recess.**

12:30—California Room, Mezzanine Floor

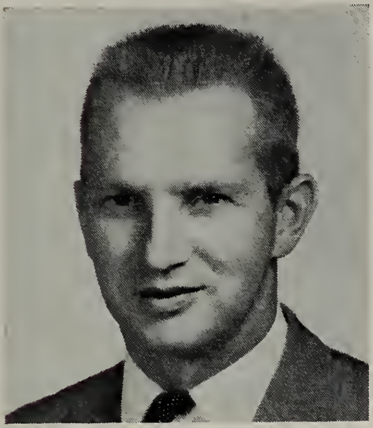
12:30—**Luncheon and Business Meeting**—Sponsored jointly by the Section on Allergy and the California Society of Allergy.

8:00—**Presidents' Dinner Dance at 8 p.m. in Venetian Room**—The Section on Allergy and the California Society of Allergy will have specially reserved tables.

ADMISSION TO ALL SCIENTIFIC MEETINGS AND EXHIBIT AREAS IS BY BADGE ONLY. BE SURE TO REGISTER.

ANESTHESIOLOGY

Chairman	Gilbert E. Kinyon, M.D., La Jolla
Secretary	Grant Fletcher, M.D., Monterey
Assistant Secretary	James S. West, M.D., Los Angeles



GILBERT E. KINYON
Chairman

GRANT FLETCHER
Secretary

SUNDAY, APRIL 15

9:30—Crystal Room, Lobby Floor

Joint Meeting with Section on Internal Medicine

Anesthesiology and Cardiovascular Surgery

9:30—**Anesthesia for Cardiovascular Surgery**—Arthur S. Keats, M.D., Professor of Anesthesiology, Baylor University College of Medicine, Houston, by invitation.

10:00—**Pathophysiological Considerations in Cardiac Surgery**—Louis N. Katz, M.D., Director of Cardiovascular Research, Michael Reese Hospital and Medical Center, Chicago, by invitation.

10:30—**Present Day Use of Mild, Moderate, and Profound Hypothermia for Cardiac Surgery**—Jerome Harold Kay, M.D., Chief of Cardiovascular Surgery, U.S.C. School of Medicine, Los Angeles.

11:00— **Panel Discussion**

Anesthesiology and Cardiovascular Surgery

Moderator: John B. Dillon, M.D., Professor of Anesthesiology, U.C.L.A. School of Medicine, Los Angeles

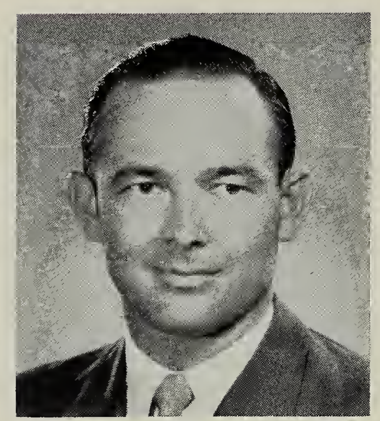
Panelists: Arthur S. Keats, M.D., Houston; Louis N. Katz, M.D., Chicago; Jerome Harold Kay, M.D., Los Angeles; Sol Bernstein, M.D., Instructor in Medicine, U.S.C. School of Medicine, Los Angeles; Philip J. Bailey, M.D., Anesthesiologist, Presbyterian Medical Center, San Francisco; Adjunct Associate Clinical Professor of Anesthesiology, Stanford University School of Medicine, Palo Alto.

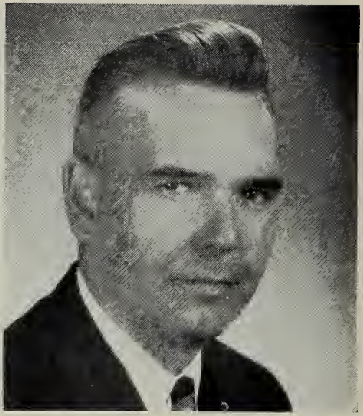
12:00—**Section on Anesthesiology Business Meeting and Election of Officers.**

BRING PROPER IDENTIFICATION FOR REGISTRATION

DERMATOLOGY AND SYPHILOLOGY

Chairman...............Murray C. Zimmerman, M.D., Whittier
Secretary........................David R. Taylor, M.D., Fresno
Assistant Secretary.............Herbert L. Joseph, M.D., Vallejo


MURRAY C. ZIMMERMAN
Chairman


DAVID R. TAYLOR
Secretary

WEDNESDAY, APRIL 18

9:30—Crystal Room, Lobby Floor

Cutaneous Surgery

Joint Meeting with Pacific Dermatologic Association

9:30—**Scissors and Scalpel Surgery—Charles S. Lincoln, Jr., M.D., Berkeley.**

9:50—**Superficial Chemosurgery in the Treatment of Aging Skin and Wrinkles—Samuel Ayres, III, M.D., Los Angeles.**

10:10—**The Treatment of Emergencies Which Occur in Office Practice—Ralph Luikart II, M.D., Santa Barbara.**

10:30—**Recess.**

10:40—**Chairman's Address: Dermatology as a Surgical Specialty—Murray C. Zimmerman, M.D., Whittier.**

11:00—**Fundamentals of Plastic Surgery—Paul P. Pickering, D.D.S., M.D., San Diego.**

11:20—**The Present Status of Dermabrasion—Ervin Epstein, M.D., Oakland.**

11:40—**Business Meeting and Election of Officers.**

11:50—**Adjournment to Terrace Room.**

12:00—Terrace Room, Terrace Floor

Special Television Program

A closed circuit color television program of dermatological procedures, demonstrations and interviews at Presbyterian Medical Center will be televised from 12 noon to 12:45 p.m.

REGISTRATION

Registration and information desks are located in the Main Lobby of the Fairmont Hotel and in the Grand Ballroom Foyer, Lower Level, Fairmont Tower. *All members, guests, and visitors are requested to register immediately on arrival.* There is no charge for registration. Registration desks are open Saturday through Wednesday. *Admission to the general and section sessions and exhibit areas is by badge only.*

EAR, NOSE AND THROAT

Chairman	Marvin W. Simmons, M.D., Fresno
Secretary	Henry L. Harris, M.D., Los Angeles
Assistant Secretary	William F. Baxter, M.D., Los Altos

MARVIN W. SIMMONS
Chairman

HENRY L. HARRIS
Secretary

SUNDAY, APRIL 15

2:00—Fountain Room, Lobby Floor

2:00—**Role of Plastic Surgery in Diseases of the Face and Neck**—Michael P. Flynn, M.D., Beverly Hills.

Discussion by Frederick Turnbull, M.D., Los Angeles.

2:30—**Musculoplasty and Tempro Bone Surgery**—Richard Peck, M.D., San Diego.

Discussion by Leland House, M.D., Los Angeles.

3:00—**Ramblings on Rhinoplasty**—David White, M.D., Los Angeles.

Discussion.

3:30—**Ear Canal Fungus—A Will-of-the-Wisp**—Daniel Seftel, M.D., Santa Cruz.

Discussion by Heinrich Kohlmoos, M.D., Oakland.

4:00—**Observations of Wullenstein's Tympanoplasty and Variations**—Don E. McCleve, M.D., Los Gatos, by invitation.

Discussion by Robert McNaught, M.D., San Francisco.

4:30—**Bronchography Materials**—Howard F. Martin, M.D., Palo Alto.

Discussion by Howard L. Jones, M.D., Palo Alto.

5:00—**Business Meeting and Election of Officers.**

PRESIDENTS' DINNER DANCE

SUNDAY, APRIL 15

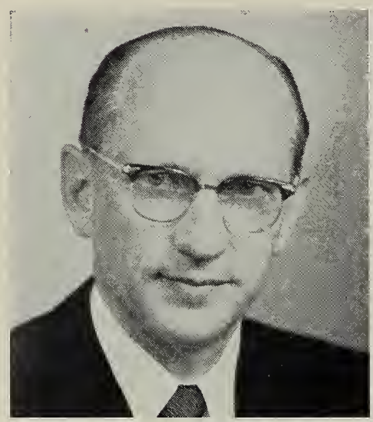
Venetian Room, Fairmont Hotel, 8:00 p.m.

Formal dress optional

Tickets will be on sale in the Main Lobby

EYE

Chairman....................Floyd M. Bond, M.D., San Diego
Secretary..............Richard A. Westsmith, M.D., San Mateo
Assistant Secretary........James F. Kleckner, M.D., Los Angeles



FLOYD M. BOND
Chairman

RICHARD A. WESTSMITH
Secretary

SUNDAY, APRIL 15

2:00—Vanderbilt Room, Terrace Floor

2:00—**Early Detection of Glaucoma**—Robert E. Christensen, M.D., Los Angeles.

Discussion—Opened by Earle H. McBain, M.D., San Rafael.

2:40—**Indications for Surgery in Glaucoma**—Robert N. Shaffer, M.D., San Francisco.

Discussion—Opened by William J. Ferguson, Jr., M.D., San Francisco.

3:20—**Complications of Light Coagulation Therapy**—Bayard H. Colyear, Jr., M.D., San Francisco.

Discussion—Opened by Bradley R. Straatsma, M.D., Los Angeles.

4:00—**Recent Advances in Ocular Therapeutics**—Dwight H. Trowbridge, Jr., M.D., Fresno.

Discussion—Opened by Byron H. Demorest, M.D., Sacramento.

4:40—**Business Meeting and Election of Officers.**

PRESIDENTS' DINNER DANCE

SUNDAY, APRIL 15

Venetian Room, Fairmont Hotel, 8:00 p.m.

Formal dress optional

Tickets will be on sale in the Main Lobby

INDUSTRIAL MEDICINE AND SURGERY

Chairman	John H. Leimbach, M.D., San Francisco
Secretary	Peter L. Hoffman, M.D., Los Angeles
Assistant Secretary	Carl Nemethi, M.D., Los Angeles

JOHN H. LEIMBACH
Chairman

PETER L. HOFFMAN
Secretary

MONDAY, APRIL 16

9:30—Fountain Room, Lobby Floor

Joint Meeting with the Sections on General Practice and Physical Medicine

Symposium

The Back

Moderator: Leon Desimone, M.D., Los Angeles

9:30—**Industrial Surgeon**—J. Minton Meherin, M.D., San Francisco.

9:50—**Orthopedic Consultant**—H. Phillip Dohn, M.D., Eureka.

10:10—**Physiatrist**—Rene Cailliet, M.D., Los Angeles.

10:30—**Rating Expert**—Mr. Eli Welch, San Francisco, by invitation.

10:50—**Medical Director**—John H. Leimbach, M.D., San Francisco.

11:30—**Business Meeting and Election of Officers.**

EMERGENCY CALLS AND MESSAGES

Convention Emergency Call Number: YUkon 6-2896 — 9:00 a.m. to 5:00 p.m.

(Provided through the courtesy of the Pacific Telephone and Telegraph Company)

Registration Desk, Lobby of Grand Ballroom—Open 9:00 a.m. to 5:00 p.m.—The Association will *ATTEMPT* to transmit messages to the individual physician. Each physician must notify his own office of the exact times and meetings he plans to attend, and the convention number.

OBSTETRICS AND GYNECOLOGY

Chairman.................Edward F. Healey, M.D., San Rafael
Secretary............Kenneth F. Morgan, Jr., M.D., Los Angeles
Assistant Secretary................Leon P. Fox, M.D., San Jose

EDWARD F. HEALEY
Chairman

KENNETH F. MORGAN, JR.
Secretary

SUNDAY, APRIL 15

9:30—Fountain Room, Lobby Floor

Joint Meeting with Section on Pathology and Bacteriology

9:30—**The Protean Manifestations of Toxoplasmosis and Their Significance in Pregnancy and in the Newborn Infant**—Robert S. Hoyt, M.D., Redwood City.
Discussion.

9:55—**Pathologic Aspects of Metrorrhagia**—Sheldon C. Sommers, M.D., La Jolla, by invitation.
Discussion.

10:20—**Chromosomal Abnormalities of Sex**—Robert R. Eggen, M.D., San Diego, by invitation.
Discussion.

10:45—**Intermission.**

10:55—**Ovarian Tumors, Benign and Malignant**—Malcolm B. Dockerty, M.D., Rochester, Minn., by invitation.
Discussion.

12:15—**Review and Evaluation of Pregnancy Testing**—Raymond A. Cullen, M.D., Santa Monica, by invitation.
Discussion.

SUNDAY, APRIL 15

2:00—Green Room, Lobby Floor

2:00—**Prenatal Care—A Group Psychotherapeutic Approach**—Ronald J. Pion, M.D., Joshua S. Golden, M.D., and Alexander B. Caldwell, Jr., Ph.D., Los Angeles, all by invitation.
Discussion.

2:30—**Vesicovaginal Fistulas: A Study of 113 Cases at the University of California Hospital, San Francisco**—Edward C. Hill, M.D., San Francisco.
Discussion.

3:00—**Trends in Reproductive Physiology and Genetics**—Prentiss Willson, M.D., Santa Maria.
Discussion.

3:30—**Appendicitis and Pregnancy**—Ruth M. King, M.D., and Gail V. Anderson, M.D., Los Angeles.
Discussion.

4:00—**Chairman's Address**—Edward F. Healey, M.D., San Rafael.

4:30—**Business Meeting and Election of Officers.**

VISIT SCIENTIFIC AND TECHNICAL EXHIBITS

ORTHOPEDICS

Chairman......................Bret W. Smart, M.D., Oakland
Secretary...................Albert H. Rodi, M.D., Los Angeles
Assistant Secretary......Edwin G. Bovill, Jr., M.D., San Francisco

BRET W. SMART
Chairman

ALBERT H. RODI
Secretary

SUNDAY, APRIL 15

9:30—Green Room, Lobby Floor

9:30—Hand Surgery in Rheumatoid Arthritis—Leonard Marmor, M.D., Los Angeles.

9:50—Cervical Spine Injuries, Origins of the Varied Symptoms, Identification, and Treatment—Norman Harris, M.D., Oakland.

10:15—The Treatment of Scoliosis in Childhood Utilizing Risser Casts—Loren J. Larsen, M.D., Edwin R. Schottstaedt, M.D., R. Kirklin Ashley, M.D., and John N. Callander, M.D., San Francisco.

10:45—Treatment of Scoliosis with Harrington Rods—Vernon L. Nickel, M.D., Los Angeles.

11:10—Survey of Modern Scoliotic Care—Jacquelin Perry, M.D., Downey.

11:30—Chairman's Address: A Quick Semi-Blind Method of Obtaining Iliac Bone Grafts—Bret W. Smart, M.D., Oakland.

11:50—Recess.

Noon—Green Room, Lobby Floor

Noon—Orthopedic Luncheon—Business Meeting and Election of Officers.

MONDAY, APRIL 16

9:30—Fountain Room, Lobby Floor

Symposium

The Back

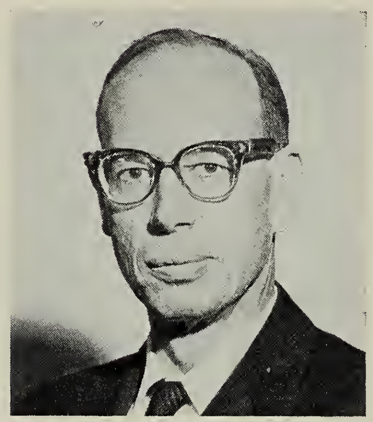
For Program, see Section on Industrial Medicine and Surgery

ADMISSION TO ALL SCIENTIFIC MEETINGS AND EXHIBIT AREAS IS BY BADGE ONLY. BE SURE TO REGISTER.

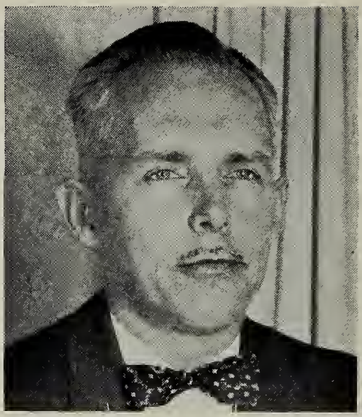
BRING PROPER IDENTIFICATION FOR REGISTRATION

PATHOLOGY AND BACTERIOLOGY

Chairman............George J. Hummer, M.D., Santa Monica
Secretary.........Carl M. McCandless, Jr., M.D., San Francisco
Assistant Secretary...........Richard O. Myers, M.D., Van Nuys



GEORGE J. HUMMER
Chairman



CARL M. McCANDLESS, JR.
Secretary

SUNDAY, APRIL 15

9:30—Fountain Room, Lobby Floor

Joint Meeting with Section on Obstetrics and Gynecology

9:30—**The Protean Manifestations of Toxoplasmosis and Their Significance in Pregnancy and in the Newborn Infant**—Robert S. Hoyt, M.D., Redwood City.
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Discussion.

10:45—**Intermission.**

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Discussion.

12:15—**Review and Evaluation of Pregnancy Testing**—Raymond A. Cullen, M.D., Santa Monica, by invitation.
Discussion.

12:45—**Business Meeting and Election of Officers.**

PRESIDENTS' DINNER DANCE

SUNDAY, APRIL 15

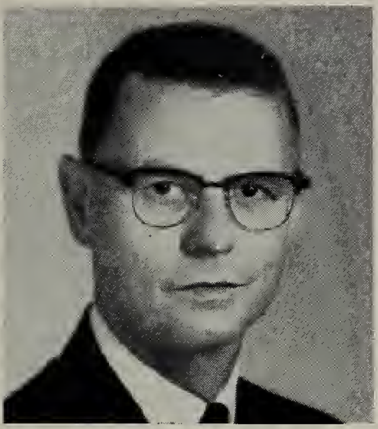
Venetian Room, Fairmont Hotel, 8:00 p.m.

Formal dress optional

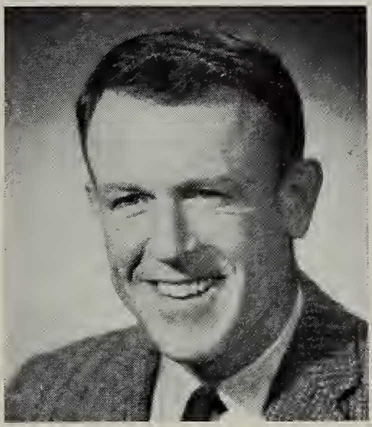
Tickets will be on sale in the Main Lobby

PEDIATRICS

Chairman....................Harry O. Ryan, M.D., Pasadena
Secretary.....................R. Bruce Jessup, M.D., Berkeley
Assistant Secretary..........Lawrence E. Reck, M.D., San Diego



HARRY O. RYAN
Chairman



R. BRUCE JESSUP
Secretary

WEDNESDAY, APRIL 18

9:30—Fountain Room, Lobby Floor

Joint Meeting with the Sections on Internal Medicine and General Practice

9:30—Changing Concepts in Treatment of Congenital Heart Disease

9:30—**Pediatric and Medical Aspects**—Alexander S. Nadas, M.D., Associate Clinical Professor of Pediatrics, Harvard Medical School, and Cardiologist, Children's Hospital Medical Center, Boston, by invitation.

10:00—**Surgical Aspects**—Norman E. Shumway, Jr., M.D., Assistant Professor of Surgery, Stanford University School of Medicine, Palo Alto.

10:30— **Panel Discussion**

Moderator: Oscar Magidson, M.D., Associate Clinical Professor of Medicine, University of Southern California School of Medicine, Los Angeles.

Panel Members: Jerome H. Kay, M.D., Los Angeles; Saul J. Robinson, M.D., San Francisco; Alexander S. Nadas, M.D., Boston; Norman E. Shumway, M.D., Palo Alto.

12:15—California Room, Mezzanine Floor

12:15—**Pediatricians' Luncheon and Panel Discussion**

Admission by ticket only. Advance reservations necessary. Information and reservations may be obtained from R. Bruce Jessup, M.D., 2151 Berkeley Way, Berkeley; telephone THornwall 3-7900, Extension 316.

Pediatric Practice—Is It Time for a Change?

Moderator: Saul J. Robinson, M.D., San Francisco

Panel Members: James MacLaggan, M.D., San Diego; Neil Littman, M.D., Los Angeles, President of the Los Angeles County Pediatric Society; Glen Austin, M.D., Los Altos, President of the Santa Clara County Pediatric Society; Richard Anderson, M.D., Eureka.

WEDNESDAY, APRIL 18

2:00—Crystal Room, Lobby Floor

Joint Meeting with the Sections on Internal Medicine, General Practice, and Preventive Medicine and Public Health

Training Physicians to Meet California's Health Needs

Who Will Be the "Family Doctors" of the Future?

Moderator: Frank Norman, M.D., Santa Rosa, Member of the Board of Directors, California Academy of General Practice.

2:00—Robert H. Alway, M.D., Dean, Stanford University School of Medicine, Palo Alto.

2:20—Walter E. Macpherson, M.D., Dean, Loma Linda University School of Medicine, Los Angeles.

2:40—Stafford L. Warren, M.D., Dean, University of California at Los Angeles School of Medicine, Los Angeles.

3:00—Phil R. Manning, M.D., Associate Dean, University of Southern California School of Medicine, Los Angeles.

3:20—Robert H. Crede, M.D., Associate Dean, University of California School of Medicine, San Francisco.

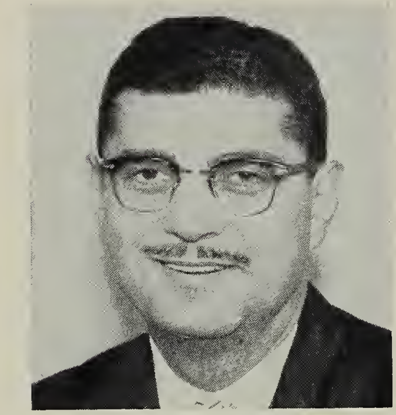
3:40—**Round Table Discussion with Questions in Writing Submitted from the Floor.**

4:30—**Business Meeting and Election of Officers.**

NOTE: At Press Time the above speakers were not all confirmed. However, each school of medicine will be represented either by the Dean or his representative.

PHYSICAL MEDICINE

Chairman.............S. Malvern Dorinson, M.D., San Francisco
Secretary...................Karl H. Haase, M.D., Los Angeles
Assistant Secretary............Frances Baker, M.D., San Mateo



S. MALVERN DORINSON
Chairman

KARL H. HAASE
Secretary

MONDAY, APRIL 16

9:30—Fountain Room, Lobby Floor

Joint Meeting with the Sections on General Practice and Industrial Medicine and Surgery

Symposium

The Back

Moderator: Leon Desimone, M.D., Los Angeles

9:30—**Industrial Surgeon**—J. Minton Meherin, M.D., San Francisco.

9:50—**Orthopedic Consultant**—H. Phillip Dohn, M.D., Eureka.

10:10—**Physiatrist**—Rene Cailliet, M.D., Los Angeles.

10:30—**Rating Expert**—Mr. Eli Welch, San Francisco, by invitation.

10:50—**Medical Director**—John H. Leimbach, M.D., San Francisco.

MONDAY, APRIL 16

2:00—California Room, Mezzanine Floor

2:00—**Introduction**—S. Malvern Dorinson, M.D., San Francisco.

2:05—**Basic Principles in the Rehabilitation of the Hemiplegic Patient**—Gerald G. Hirschberg, M.D., Berkeley.

2:25—**Isolated Muscle Weakness as a Presenting Symptom in Cervical Root Disease**—Walter J. Treanor, M.D., and Edmund J. Morissey, M.D., San Francisco.

2:45—**Geriatric Rehabilitation: The Challenge and the Goal**—David Rubin, M.D., Los Angeles.

3:05—**Half a Decade of Experiences in Treatment of Acute and Chronic Disabilities of the Shoulder**—William M. Gilmore, Jr., M.D., Palo Alto.

3:25—**Recess.**

3:35—**A Biological Approach to Clinical Management of Disability**—Daniel Feldman, M.D., Palo Alto, by invitation.

3:55—**Active Coordination Exercises for Correction of Stuttering**—Harvey E. Billig, Jr., M.D., Los Angeles.

4:15—**Movement in the Sacroiliac Joint of the Adult Male**—Sam C. Colachis, Jr., M.D., Los Angeles, by invitation.

4:35—**Business Meeting.**

VISIT SCIENTIFIC AND TECHNICAL EXHIBITS

PREVENTIVE MEDICINE AND PUBLIC HEALTH

Chairman	Ellis D. Sox, M.D., San Francisco
Secretary	Irving D. Litwack, M.D., Long Beach
Assistant Secretary	Leslie Corsa, Jr., M.D., Berkeley

ELLIS D. SOX
Chairman

IRVING D. LITWACK
Secretary

WEDNESDAY, APRIL 18

9:30—Vanderbilt Room, Terrace Floor

9:30—**The Growth and Development of an Occupational Health Program in a Local Health Department**—Morris L. Grover, M.D., Pasadena, and Louis S. Hauger, R.S., Pasadena, by invitation.

Discussant: Howard W. Mitchell, M.D., Berkeley.

10:00—**Present Status of Polio Immunization in the United States**—C. A. Smith, M.D., Assistant Surgeon General, U. S. Public Health Service, Atlanta, Georgia, by invitation.

Discussant: Edward B. Shaw, M.D., San Francisco.

10:30—**The Role of the Health Officer in Mental Health Programs**—Harold D. Chope, M.D., San Mateo.

Discussant: Alfred Auerback, M.D., San Francisco.

11:00—**Recess.**

11:10—**The Private Physician and the Challenge of Tuberculosis**—Elliot A. Rouff, M.D., and Joseph L. Robinson, M.D., Los Angeles.

Discussant: Frank E. Hesse, M.D., Berkeley.

11:40—**Multiphasic Screening of San Francisco Longshoremen** — Nemat O. Borhani, M.D., Berkeley.

Discussion.

12:10—**Business Meeting.**

WEDNESDAY, APRIL 18

2:00—Crystal Room, Lobby Floor

Joint Meeting with Sections on General Practice, Internal Medicine and Pediatrics

Training Physicians to Meet California's Health Needs

Who Will Be the "Family Doctors" of the Future?"

For Program, see Section on Pediatrics

PRESIDENTS' DINNER DANCE

SUNDAY, APRIL 15

Venetian Room, Fairmont Hotel, 8:00 p.m.

Formal dress optional

Tickets will be on sale in the Main Lobby

PSYCHIATRY AND NEUROLOGY

Chairman	Robert E. Wyers, M.D., Norwalk
Secretary	Mark Zeifert, M.D., Fresno
Assistant Secretary	Henry S. Colony, M.D., Oakland

ROBERT E. WYERS
Chairman

MARK ZEIFERT
Secretary

WEDNESDAY, APRIL 18

9:30—Hunt Room, Mezzanine Floor

9:30—**The Beneficent and Maleficent Iatrogenic Effect**—Charles William Wahl, M.D., Los Angeles, by invitation.
Discussion.

10:00—**The Telemetering of Brain Waves in Behavior Problems**—Charles L. Yeager, M.D., Ph.D., and Alfred J. Gianascol, M.D., San Francisco; and by invitation, Carter C. Collins, M.S. (E.E.), and Robert W. Vreeland, B.S. (E.E.), San Francisco.
Discussion.

10:30—**Genetic Thyroid Dysgenesis**—Karl M. Bowman, M.D., and Miriam Gould, M.D., San Francisco.
Discussion.

11:00—**Cerebral Angiography in Acute Head Injuries and Undiagnosed Coma**—Byron C. Pevehouse, M.D., San Francisco.
Discussion.

11:30—**Recess.**

11:40—**Business Meeting and Election of Officers.**

2:00—Hunt Room, Mezzanine Floor

2:00—**The San Diego Day Treatment Center**—Thomas M. McMillan, M.D., San Diego.
Discussion.

2:30—**Emergency Consultation: The Single Interview**—Carl B. Younger, M.D., and Wayne B. Jacobson, M.D., Los Angeles, both by invitation.
Discussion.

3:00—**Community Responsibilities of the Psychiatrist and Other Physicians in Education**—Ronald R. Koegler, M.D., Los Angeles.
Discussion.

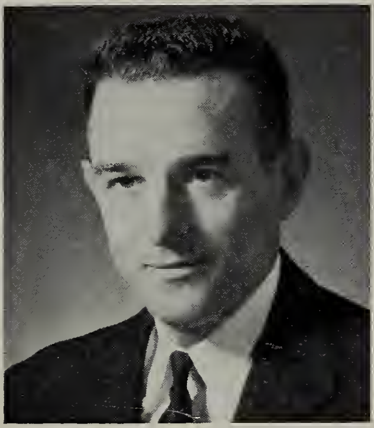
3:30—**Schizophrenic Reactions of Childhood: A Review of the Development of Psychodynamic Approaches**—A. J. Gianascol, M.D., San Francisco.
Discussion.

4:00—**Delinquency as a Manifestation of the Mourning Process**—Mervyn Shoor, M.D., San Jose.
Discussion.

BRING PROPER IDENTIFICATION FOR REGISTRATION

RADIOLOGY

Chairman..................John R. Bryan, M.D., San Francisco
Secretary.................Robert L. Scanlan, M.D., Los Angeles
Assistant Secretary............Walter Gaines, M.D., San Mateo



JOHN R. BRYAN
Chairman

ROBERT L. SCANLAN
Secretary

SUNDAY, APRIL 15

9:30—Hunt Room, Mezzanine Floor

9:30—**Pulmonary Hyperinflation in Infants**—James S. Vaudagna, M.D., and Frank J. Volpe, M.D., San Jose.
Discussion.

9:55—**Mammography**—David J. Sayles, M.D., San Diego.
Discussion.

10:20—**Some Technical Aspects of Angiography**—William N. Hanafee, M.D., Los Angeles.
Discussion.

10:45—Recess.

10:55—**Intracardiac CO_2 and the Diagnosis of Pericardial Disease**—Winston A. Mitchell, M.D., by invitation; and Thomas G. English, M.D., San Jose.
Discussion.

11:20—**The Radiation Hazard**—Gerald M. McDonnel, M.D., Los Angeles.
Discussion.

11:45—**Business Meeting and Election of Officers.**

SUNDAY, APRIL 15

2:00—Hunt Room, Mezzanine Floor

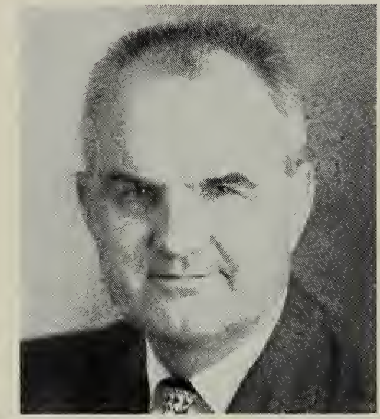
2:00—**Medical Aspects of Nuclear Reactor Accidents**—George L. Voelz, M.D., Idaho Falls, Idaho, by invitation. (Sponsored by the Pacific Roentgen Society.)
Discussion.

2:45—**Recess—Annual Meeting of the Pacific Roentgen Society.**

VISIT SCIENTIFIC AND TECHNICAL EXHIBITS

UROLOGY

Chairman	Sam Peck, M.D., San Diego
Secretary	August Spitalny, M.D., San Francisco
Assistant Secretary	Henry Bodner, M.D., Van Nuys



SAM PECK
Chairman

AUGUST SPITALNY
Secretary

TUESDAY, APRIL 17

9:30—California Room, Mezzanine Floor

9:30—**Interstitial Cystitis—Review of 27 Cases**—William L. McLaughlin, M.D., San Francisco.

Discussant: August Spitalny, M.D., San Francisco.

9:50—**Special Use of Artificial Kidney—In Snake Bite**—Frank H. Carter, M.D., and, by invitation, Donald B. Frazier, M.D., San Diego.

Discussant: Allan Unger, M.D., San Francisco.

10:10—**Recess.**

10:20—**Secondary Effects of Drugs as Manifested in the Genitourinary Tract**—William R. Smart, M.D., San Rafael.

Discussant: Frederick Meyers, M.D., San Francisco, by invitation.

10:40—**Carcinoma and Tuberculosis in the Same Kidney**—J. Salem Rubin, M.D., Los Angeles.

Discussant: Milton L. Rosenberg, M.D., San Francisco.

11:00—**Recess.**

11:10—**Renal Transplantation in Identical Twins**—Matt Mims, M.D., by invitation; Willard E. Goodwin, M.D.; Joseph Kaufman, M.D.; William Bonney, M.D., by invitation; and Ralph Goldman, M.D., Los Angeles.

Discussants: Willard E. Goodwin, M.D., and Joseph Kaufman, M.D., Los Angeles.

11:30—**Anatomic Study of Torsion of the Spermatic Cord**—Edward C. Lawless, M.D., by invitation; and Harold H. Lindner, M.D., San Francisco.

Discussant: Harold H. Lindner, M.D., San Francisco.

12:00—**Business Meeting and Election of Officers.**

TUESDAY, APRIL 17

2:00—California Room, Mezzanine Floor

2:00—**Intravenous Aortography and Nephrotomography in Urologic Diagnosis**—S. B. Reich, M.D., and August Spitalny, M.D., San Francisco.

Discussants: August Spitalny, M.D., and Morton J. Thoshinsky, M.D., San Francisco.

2:20—**Renovascular Hypertension — Its Diagnosis and Treatment**—Allen Wall, M.D., and T. J. Whalen, M.D., San Francisco.

Discussant: Johan V. Hultin, M.D., San Francisco.

2:40—**Is Litholopaxy a Safe Procedure?**—Henry L. Hadley, M.D., Los Angeles.

Discussant: Roger Barnes, M.D., Los Angeles.

3:00—**Photoscan Studies of the Kidneys in Urologic Disease**—Robert Pearman, M.D., Encino; and, by invitation, Marvin Cohen, M.D., Los Angeles.

3:10—**Recess.**

3:20—**Sarcoma of the Ureter—Case Report**—E. Vincent Moore, M.D., La Mesa.

3:40—**Indications for Nephrectomy Particularly in Relation to Hypernephroma with Metastasis**—Robert J. Prentiss, M.D., San Diego.

Discussant: Frederick Howard, M.D., San Francisco.

4:00—**Full Term Pregnancy and Successful Vaginal Delivery After Ileocystoplasty**—Stanley Ross, M.D., Van Nuys; Hugh S. Betenbaugh, M.D., Bakersfield; Willard E. Goodwin, M.D., Los Angeles; and Vital E. Haynes, M.D., San Diego.

Discussant: John Anlyan, M.D., San Francisco.

4:20—**Papillary Carcinoma of the Renal Pelvis Following Cystectomy and Bricker Procedure for Carcinoma of the Bladder**—J. B. Miller, M.D., Los Angeles, by invitation.

4:40—**Recess.**

Medical Motion Pictures

4:50—**Cystectomy — Ureterosigmoidectomy** — R. E. H. Puntenny, M.D., Salinas.

5:10—**Simple Perineal Prostatectomy**—Edward F. Kelly, M.D., Livermore, by invitation.

5:25—**Technique of Transurethral Prostatectomy (Living and Dead Subjects)**—Robert J. Prentiss, M.D., San Diego.

QUALIFICATIONS/REQUIREMENTS FOR REGISTRATION

(a) All M.D.'s with credentials showing that they hold valid license to practice medicine. (Membership card in C.M.A.; county medical society/association or A.M.A. membership card.)

(b) Medical students will be admitted upon presentation of credentials from their medical schools identifying them as medical students. (A membership card of the Student American Medical Association or letter from their dean's office.)

(c) Medical secretaries will be admitted upon presentation of a letter from the physician employer.

(d) Pharmacist mates and other military personnel of a like grade will be admitted upon presentation of a letter requesting their admittance, written by their commanding officer.

(e) Dentists (D.D.S.), doctors of veterinary medicine (D.V.M.), registered nurses (R.N.), student nurses, x-ray technicians, laboratory technicians, dietitians, allied public health personnel, and others will be admitted provided they have proper identification.

(f) *All questions on admission will be passed upon by a member of the Committee on Registration who will be present at the desk.*

ADMISSION TO ALL SCIENTIFIC MEETINGS AND EXHIBIT AREAS IS BY BADGE ONLY. BE SURE TO REGISTER.

Scientific and Organizational Exhibits

SCIENTIFIC EXHIBITS

Garden Room, Lobby Floor

Venography in Thrombophlebitis of the Lower Extremity—Richard A. Kramer, M.D., Sydney P. Hecker, M.D., and John F. Weigen, M.D., Palo Alto.—Through the use of 12 illustrative roentgenograms, the appearance before and after thrombolytic therapy is shown. Charts and posters also emphasize the usefulness of these techniques in diagnosis of thrombophlebitis and its importance in the evaluation of thrombolytic agents.

Renovascular Hypertension—Diagnosis and Treatment—C. Allen Wall, M.D., and T. J. Whalen, M.D., San Francisco.—Specific diagnostic steps in the definitive evaluation of the patient with hypertension due to renal artery occlusion are illustrated by photographs, photomicrographs and roentgenograms. The technique and results of surgical revascularization of the kidney are presented in drawings.

Ulcerogenic Tumors of the Duodenum—Harry A. Oberhelman, Jr., M.D., Thomas S. Nelsen, M.D., and, by invitation, G. Robert Mason, M.D., and Edwin H. Eigenbrodt, M.D., Palo Alto.—This exhibit presents through the use of charts and posters, drawings, photographs, and photomicrographs, the diagnostic features, clinical observations, pathological findings and rationale of therapy of ulcerogenic tumors of the duodenum (Zollinger-Ellison Syndrome).

Surgical Correction of Mitral Insufficiency and Combined Mitral Stenosis and Insufficiency—Jerome Harold Kay, M.D., Oscar Magidson, M.D., John E. Meihaus, M.D., and, by invitation, Pablo Zubiate, M.D., Los Angeles.—This exhibit consists of drawings that depict the five types of valve pathology and surgical repair of each type, the salient feature of the valve repair, and the results of 41 patients operated on.

Anabolic Steroids in Disease—M. James Whitelaw, M.D., T. N. Foster, M.D., William Graham, M.D., San Jose, and Sydney F. Thomas, M.D., Palo Alto. —This exhibit contains color transparencies, x-rays, charts and posters of long term treated cases of achondroplasia and gonadal dysgenesis (Turner's Syndrome).

Left Ventriculography in Cardiovascular Disease—Robert H. DeRiemer, M.D., Richard Gilman, M.D., John J. Kelly, M.D., and William Kuzman, M.D., San Diego.—A display of photographs and pressure tracings demonstrating the technique, results, indications and contraindications of left ventriculography.

The Aggressive Treatment of Spontaneous Pneumothorax—Robert W. Jamplis, M.D., Sydney P. Hecker, M.D., Glen A. Lillington, M.D., J. Ian McNeill, M.D., Sidney P. Mitchell, M.D., Francis S. North, M.D., John F. Weigen, M.D., and George A. Wood, M.D., Palo Alto.—The aim of treatment of spontaneous pneumothorax is to relieve symptoms, prevent complications, and minimize disability and economic loss. This is best accomplished in all but minimal cases by aggressive reexpansion of the lungs, as opposed to conservative treatment by prolonged bed rest and/or aspirations. The exhibit presents this concept by means of x-ray, colored drawings, photographs, diagrams, graphs and a minimum of written material. Special emphasis is placed on closed intercostal drainage and the indications for open thoracotomy.

Military Medical Lessons—A Foundation for the Future—John Boyd Coates, Jr., Colonel, MC, USA, Washington, D. C., by invitation.—A series of photographs and medical volumes from World War I and II that are of historical and clinical interest. Some emphasis is placed on the care of large numbers of injured in mass disasters, whether of enemy or natural origin.

Early Detection of Oral Cancer—Eugene G. Miller, M.D., and, by invitation, Sol Silverman, D.D.S., San Francisco.—Through the use of photographs, benign and malignant lesions are shown. Drawings, charts and posters illustrate early and late cure rates, plus methods of cytology as applied to oral cancer.

ORGANIZATIONAL EXHIBITS

California Medical Association Placement Service—At the California Medical Association's Physician Placement Service booth, the Coordinator of the Placement Service will be on hand throughout the meeting to discuss opportunities for practice in California and to assist those having openings they wish to list in the Physicians Placement Bulletin. Descriptive material and other information on how to make the best use of the Placement Service facilities will be available for distribution.

California Physicians' Service-Blue Shield—At the California Physicians' Service booth, professional relations representatives will be on hand throughout the meeting to discuss any phase of the C.P.S. operation. Descriptive materials, fee schedules, and other information of interest to physicians' offices will be available for distribution.

COLOR TELEVISION PROGRAM

Planning Committee: VICTOR RICHARDS, M.D., Chairman

CLIFFORD CHERRY, M.D.
PAUL D. FOSTER, M.D.
GEORGE C. GRIFFITH, M.D.
WILLIAM P. MIKKELSEN, M.D.

Monday to Wednesday—Mornings, April 16 to 18

TERRACE ROOM, FAIRMONT HOTEL

Closed Circuit Color Television programs will be offered Monday, Tuesday and Wednesday mornings in the Terrace Room, Fairmont Hotel. Each program will have a Moderator and Panel of Discussants present at the Fairmont Hotel with operative procedures and patient interviews or demonstrations televised from Presbyterian Medical Center. Following is a list of the programs. *The complete Color Television Program will be available in the Official Program which will be distributed at the Registration Desk at the time of the meeting. It will give complete descriptions and listings of moderators, surgeons and panels.*

COLOR TELEVISION PROGRAM—C.M.A. ANNUAL SESSION

April 16 to 18, 1962

MONDAY, 9:30-12:00 NOON
Open Heart Surgery

TUESDAY, 9:30-12:00 NOON
Biliary Tract Surgery and Jaundice

WEDNESDAY, 9:30-10:30 A.M.
Conference on Alcoholism

WEDNESDAY, 10:30-12:00 NOON
Panel on Population Pressures

WEDNESDAY, 12:00-12:45 P.M.
Dermatology

MOTION PICTURE PROGRAM

PAUL D. FOSTER, M.D., Chairman

Emergencies in Medical Practice

Sunday to Wednesday—Afternoons and Evenings, April 15 to 18

TERRACE ROOM, FAIRMONT HOTEL

Motion Picture Film Symposia will be offered each afternoon and evening in the Terrace Room, Fairmont Hotel. General theme of the entire series is *Emergencies in Medical Practice.* Each Symposium will have a Moderator and Panel of experts in the field to discuss films and answer questions from the audience. Following is a schedule of the Symposia. *See separate Motion Picture Program which will be available at the Registration Desk at the time of the meeting for complete listing of films, moderators, discussants and time schedule.*

MOTION PICTURE PROGRAM—C.M.A. ANNUAL SESSION

April 15 to 18, 1962

SUNDAY, 2:00-5:00 P.M.
Emergencies in Pediatrics

SUNDAY, 8:00-10:00 P.M.
General Program—Emergencies in Medicine

MONDAY, 2:00-5:00 P.M.
Emergencies in Cardiovascular Diseases

MONDAY, 8:00-10:00 P.M.
Disaster Medical Care

TUESDAY, 2:00-5:00 P.M.
Emergencies in Surgery

TUESDAY, 8:00-10:00 P.M.
Emergencies in Orthopedics

WEDNESDAY, 2:00-3:00 P.M.
Proctoscopy: An Essential Component of the Physical Examination (Combined Motion Picture and Television Program)

WEDNESDAY, 3:00-5:00 P.M.
Pathology and Proctoscopy of the Larger Bowel

Technical Exhibits

The Grand Ballroom of the Fairmont Hotel will house the technical exhibits and may be reached from the Terrace Floor of the hotel or the California Street entrance to the Tower. This area is outstanding for exhibit purposes and a number of exhibitors will present their products and services for members of the Association.

All exhibits and all products exhibited have been screened by a committee as a means of eliminating those which do not meet high standards. The exhibitors agree to this procedure and agree that by this means each will be in good company.

Here in one area will be found the latest developments in drugs, equipment and services to aid the physician in his professional activities. All physicians are urged to visit the exhibits; meetings have been planned to allow ample time for this important activity. Your visit will not only help bring your own knowledge up to date, but also, it will demonstrate to our exhibitors, who contribute so much to the success of the meeting, that we recognize and appreciate their cooperation.

Exhibits will be open from 9 a.m. to 5 p.m. each day, with an early closing on Wednesday.

ABBOTT LABORATORIES Booth 110
North Chicago, Illinois

Abbott Laboratories invites you to visit our exhibit. Our representatives will be happy to answer any questions you may have concerning our leading products and new developments.

ADVANCE TRENDS, INC. Booth 100
Los Angeles

Highlighting the exhibit will be a surgical instrument cleaner that infiltrates and frees intricate box, locks and syringes. In addition, advanced electrotherapy and ultrasonic therapy units will be displayed in operation.

AMERICAN HEALTH CREDIT PLAN, INC. OF NORTHERN CALIFORNIA, San Francisco Booth 57

Under the theme that "Good Health Costs Money," the exhibit will offer explanation and literature about how the American Health Credit Plan serves the mutual interests of the medical profession, other health services and the patient member.

ARMOUR PHARMACEUTICAL COMPANY Booth 101
Chicago, Illinois

LISTICA—The Armour Pharmaceutical Company exhibit will feature Listica (hydroxyphenamate) the first selective tensitropic for the treatment of anxiety and tension.

CHYMORAL, CHYMAR AQUEOUS—The Armour Pharmaceutical Company exhibit will feature Chymoral, systemic anti-inflammatory enzyme tablets which reduce inflammation, swelling and pain. Also included will be Chymar Aqueous, the parenteral systemic anti-inflammatory enzyme.

ASSOCIATION OF AMERICAN PHYSICIANS AND SURGEONS, INC., Chicago, Illinois Booth 95

The Association of American Physicians and Surgeons' exhibit is made up of posters and blow-ups of cartoons which describe and depict some of the many problems confronting the American medical profession and, also, how the Association is helping physicians to meet them.

Pamphlets giving the background, principles and objectives of the Association and its program of services to physicians are available at the exhibit.

AUDIO-DIGEST FOUNDATION Booth 111
Glendale

Audio-Digest Foundation (a non-profit subsidiary of the California Medical Association) gives the busy physician a time-saving tour through the best of some 600 current medical journals, plus the highlights of scores of national meetings. Time-proven, but still unique—these medical tape-recorded services are now offered in six series—General Practice (issued weekly and bi-weekly), and Pediatrics, Internal Medicine, Surgery, Obstetrics and Gynecology, Anesthesiology (all issued semi-monthly). The one-hour long tapes are selected and reviewed by a professional Board of Editors. Digest subscribers listen in their car, home or office. The Foundation also offers medical lectures by nationally-recognized authorities.

AYERST LABORATORIES Booth 44
New York, New York

"Mesulfin" Brand of antibacterial for Urinary Tract Infections—a new extension in Urotherapy will be featured along with "Riopan" the newest concept in antacid therapy. Information and descriptive literature on these specialties as well as "Larylgan" and "Auralgan" will be available. Physicians are cordially invited to visit our exhibit and discuss these and any other Ayerst specialties with our representatives.

BARNES-HIND LABORATORIES, INC. Booth 68
Sunnyvale

Barnes-Hind Laboratories, Inc., will exhibit their complete line of dermatologic preparations contained within the exclusive Barnes-Hind Heb Base and Heb Lotion. Heb Base and Lotion are self-emulsifying, indefinitely stable and nonallergenic. Heb Base and Lotion have been demonstrated to show effective release of active ingredients at affected skin areas.

DON BAXTER, INC. Booth 20
Glendale

Don Baxter, Inc., the leader in disposable hospital specialty items once again presents a modern, new concept . . .

THREE *new* PREPACKAGED TRAYS . . . this new, constantly expanding line of products is helping more and more hospitals overcome problems of standardization and sterility control.

Also featured will be the STYLEX® DISPOSABLE SYRINGE, thoroughly proven in use.

Hospitals buy more Don Baxter-produced disposable syringes than those of all other manufacturers combined.

BEECH-NUT BABY FOODS Booth 58
New York, New York

Beech-Nut Nutritionists welcome you to the Babyland booth to discuss the uses of Beech-Nut Baby Foods in infant and modified diets. Educational and technical literature is available and the newest Beech-Nut products will be introduced: Strained Orange Banana Juice, Strained Rice and Hi-Protein Cereals in jars with Apple Sauce and Bananas; Strained Apricots with Tapioca. The complete line of Beech-Nut Baby Foods includes Juices, Cereals, Fruits, Vegetables, Meats and Egg Yolks, Soups and Dinners, Protein Dinners, Custard and Fruit Desserts.

BIO-METRICS Booth 52
Richmond, California

New electronic instruments, reagents, and simplified reliable procedures for performance of rapid clinical determinations, such as: Cholesterol, Glucose, Hemoglobin, Prothrombin, and Thrombo test (Owren). Demonstrations of tests performed throughout each day.

BRISTOL LABORATORIES, DIVISION OF BRISTOL-MYERS CO., East Syracuse, New York Booth 17

BROEMMEL PHARMACEUTICALS Booth 12
San Francisco

Broemmel Pharmaceuticals presents an ethical line of ophthalmic, otic and nasal medications. To be especially featured in this year's exhibit will be Bro-Parin, a heparin-antibiotic complex for the treatment of ear infections; Isophrin in a new dosage strength for use as a pediatric nasal decongestant, and Op-Predrin an ophthalmic solution combining anti-inflammatory and decongestant properties. You are cordially invited to visit Booth 12 and obtain literature and samples of any of the products of interest to you.

BURROUGHS WELLCOME & CO., INC. Booth 6
Tuckahoe, New York

You are cordially invited to visit Burroughs Wellcome & Co. (U.S.A.) Inc., Booth 6 for the latest information on our products, and the newest developments from the extensive research facilities of Burroughs Wellcome & Co.

Of particular interest at this meeting will be our new topical and ophthalmic antibiotic products, as well as our "Actifed-C" Expectorant. Our informed staff welcomes this opportunity to show you these new products.

BURTON, PARSONS & COMPANY, INC. Booth 66
Washington, D. C.

You are cordially invited to stop at the Burton, Parsons & Company exhibit where our representative will be showing Konsyl, L. A. Formula, NeutraCarb, and EKG Sol. Samples, descriptive literature, and information will be available on all these products. Konsyl and L. A. Formula are the original refined psyllium bulk laxatives. NeutraCarb, the antacid with Vitamin C is available in five delightful flavors, cherry, lemon, lime, peppermint and raspberry. EKG Sol is the new and modern electrode cream for electrocardiography and electro-encephalography.

CANRIGHT CORPORATION Booth 81
Glendale

Information pertaining to our line of prescription specialty formulas will be available at the booth. Your courtesy by stopping by will be appreciated.

CASS & JOHANSING Booth 56
Los Angeles

Representatives will be present to discuss the approved Association Insurance Programs—Professional Liability, Life and Accidental Death and Dismemberment.

In addition, assistance in complete insurance programming will be available.

CIBA PHARMACEUTICAL PRODUCTS INC. Booth 50
Summit, New Jersey

Product to be featured: Forhistal® is a new, low-dosage antiallergic and antipruritic agent. Clinically, Forhistal has proved highly effective in a wide range of allergic and pruritic disorders. It is well tolerated by patients of all ages. Forhistal is available in 4 forms of issue: Lontabs®, Tablets, Syrup and Pediatric Drops.

THE COCA-COLA COMPANY Booth 18
Atlanta, Georgia

Ice-cold Coca-Cola served through the courtesy and cooperation of The Coca-Cola Bottling Company of California, and The Coca-Cola Company.

CORECO RESEARCH CORP. Booth 34
New York, New York

The Coret Camera embodies the principle of electronic flash and constant automatic control of such factors as distance, aperture, field, and exposure. Now, for the first time, Coreco offers a completely automatic professional clinical camera purposely designed to achieve the ultimate in surface, intra-oral, and intra-tubular photography. Because of the simplicity of operation, even an inexperienced doctor or nurse can achieve consistently perfect color transparencies.

CORN PRODUCTS COMPANY Booth 91
New York, New York

Corn Products Company offers information about the role of Mazola Corn Oil and Mazola Margarine in the dietary management of serum cholesterol. Reprints of papers on this subject are provided. There is available material to give your patients who need dietary guidance. Qualified representatives are present to answer technical questions.

CUTTER LABORATORIES Booth 5
Berkeley

F. A. DAVIS COMPANY Booth 99
Philadelphia, Pennsylvania

At Booth No. 99, F. A. Davis Company, will be featured a broad selection of new books and new editions. Among these will be Morse's Congenital Heart Disease, Sadove & Wallace's Halothane, Dilling's Clinical Pharmacology, Manter & Gatz' Clinical Neuroanatomy and Neurophysiology, Cantor's Traumatic Medicine and Surgery, Cooper & Ross's Hypothermia, Muller's Cardiopulmonary Hemodynamics of Chronic Lung Disease, Gjertsen's Paradoxical Incontinence in Prostatic Patients, New (9th) Edition of Taber's Cyclopedic Medical Dictionary, Simon's Chest X-Ray Diagnosis, Simon's Bone X-Ray Diagnosis, Arbeit, Rubin & Gross' Differential Diagnosis of the Electrocardiogram, and many others on the F. A. Davis reference list.

DESITIN CHEMICAL CO., INC. **Booth 37**
Providence, Rhode Island

Desitin Ointment: For treatment of burns, ulcers, diaper rash, abrasions, etc.

Desitin Powder: Relieves chafing, sunburn, diaper rash, etc.

Desitin Suppositories and Rectal Ointment: Relieve pain and itching in uncomplicated hemorrhoids, fissures.

Desitin Baby Lotion: Protective, antiseptic.

Desitin Acne Cream: A non-staining, flesh-tinted "Medicream" for the treatment of Acne Vulgaris.

Desitin Cosmetic and Nursery Soap: Supermild.

Desitin Suppositories with Hydrocortisone: Prompt response to inflammatory conditions in proctitis, severe pruritus, edema.

Desitin Ointment with Hydrocortisone: Provides hydrocortisone 1 per cent (as the alcohol) added to the well known Desitin formula of Norwegian cod liver oil.

Desitin Hydrocortisone Cream: Non-staining, washable hydrophilic base with sol. al. acetate. An elegant cosmetic preparation with HC 1 per cent.

Desitin Cor-D-Tar Cream: Desitin Cor-D-Tar Cream—non-staining hydrophilic base with a special solution coal tar 3 per cent and non-staining diiodohydroxyquin 2 per cent. For bacterial-fungal-infectious eczematous discomfort.

THE DEVEREUX SCHOOLS **Booth 11**
Santa Barbara

Representatives of this special residential treatment center will be present to acquaint physicians with this unique facility near Santa Barbara for emotionally disturbed and slow-learning children. Physicians are invited to visit the exhibit for research reprints and descriptive brochures.

THE DIETENE COMPANY **Booth 42**
Minneapolis, Minnesota

Have you tasted Meritene? Meritene is the good-tasting *Protein*-vitamin-mineral Food Supplement prescribed to provide concentrated nutrition for patients with poor appetite or tolerance for ordinary food. Visit our booth and let us serve you a cool, refreshing Meritene Nourishment.

While there, review also our Dietene Reducing Plan, designed to get better cooperation from over-weight patients. The Dietene Plan provides optimum nutrition and maximum satiety without the use of drugs.

Meritene and Dietene are advertised only to the Medical Profession.

DOME CHEMICALS INC. **Booth 27**
New York, New York

Dome will feature a complete line of Dermatological specialties such as Cort-Dome,® Neo-Cort-Dome,® Lida-Mantle,® DomeForm,™ Vi-Dom-"A"® and Acne-Dome.® Several recently released topical medications that include the famous Acid Mantle® vehicle as part of their formulation will also be presented.

EATON LABORATORIES **Booth 36**
Norwich, New York

Since 1939, Eaton Laboratories has pioneered in the development of the nitrofurans, many of which have been made available, as legend drugs, to the profession. Basic and clinical research is continuing on these, as well as other classes of compounds.

In addition, Eaton Laboratories offers a variety of research and educational services for all phases of medicine. Our Medical Service Representatives at the Eaton Booth welcome the opportunity to furnish you with complete information covering these services and the nitrofurans.

EISELE & COMPANY **Booth 64**
Nashville, Tennessee

Eisele & Company will exhibit their regular line of hypodermic syringes, both the regular and interchangeable types, hypodermic needles, clinical thermometers, elastic bandages, specialty glassware, and other related items.

ENCYCLOPAEDIA BRITANNICA **Booth 23**
Chicago, Illinois

The latest edition of Britannica may be ordered during the convention on attractive and convenient terms. Consider the long-lasting benefits and pleasure such a decision would bring. Your inspection will reveal why, with the availability of Britannica Junior, it is never too early to own Britannica. On the other hand there is an equally appealing alternative for busy prospective patrons, who unintentionally of course, have fallen prey to procrastination! Our representative, Mr. Duncan Campbell, will be happy to attend you.

ENDO LABORATORIES, INC. **Booth 104**
Richmond Hill, New York

Endo Laboratories will present the latest clinical information relating to our products: Coumadin,® Numorphan,® Percodan,® Percodan-Demi,® Hycomine,® Hycomine®-Compound, Hycodan.®

CHARLES O. FINLEY & CO. **Booth 4**
Chicago, Illinois

FLINT, EATON & COMPANY **Booth 96**
Morton Grove, Illinois

Featured products are Ferrolip, Synthroid . . . Ferrolip is a chelate complex of iron which is clinically effective and well tolerated. Ferrolip also provides a maximal factor of safety against the possibility of iron poisoning in case of accidental overdosage. Synthroid Tablets contain sodium levothyroxine, the active principle of the thyroid gland, prepared synthetically in pure crystalline form.

FOREMOST DAIRIES, INC. **Booth 31**
San Francisco

Foremost "Fresher Tasting" Evaporated Milk, the first to be processed by High-Temperature Short-Time sterilization, "flash cooled," then sealed into plastic lined sterilized cans to protect its fresher flavor.

Foremost "Fresher Tasting" Evaporated Milk has a flavor, color, and aroma akin to fresh homogenized milk.

On request, nutritional data and samples of Foremost will be mailed to your home or office.

Egg Nog made from this modern product will be served at the booth.

FULLER PHARMACEUTICAL COMPANY **Booth 85**
Minneapolis, Minnesota

Tucks are used postoperatively in Hemorrhoidectomy and Episiotomy.

GEIGY PHARMACEUTICALS Booth 72
Yonkers, New York

Geigy cordially invites Members and Guests of the Association to visit its exhibit. The exhibit features important new therapeutic developments in the management of inflammation, as well as current concepts in the control of hypertension and edema, depression, obesity, and other disorders, which may be discussed with physicians and representatives in attendance.

GERBER BABY FOODS Booth 106
Fremont, Michigan

New! Gerber Modilac . . . A complete formula for infants. Gently processed to conserve nutritional values, it has true milk color and flavor. Modilac *is* milk adapted to the infant's physiologic requirements by the addition of a selected carbohydrate, replacement of butterfat with corn oil and supplementation with needed vitamins. Ask for complete information.

GREAT BOOKS OF THE WESTERN WORLD Booth 14
Chicago, Illinois

"Great Books of the Western World," in 54 volumes containing 443 works by 74 authors from Homer to Freud spanning 3000 years of western thought featuring the revolutionary index of ideas, "The Syntopicon" including 3000 topics with 163,000 references to their exact location in the classification of 102 ideas.

H. J. HEINZ COMPANY Booth 87
Pittsburgh, Pennsylvania

Heinz Baby Foods are now made by a revolutionary new process. Important results are: Superior Nutrition, Flavor, Color and Consistency. Taste some of these varieties at the Heinz Booth.

Newest varieties are: Apple-Cherry Juice, Strained and Junior Vegetables and Dumplings with Beef and Bacon, Junior Meat Sticks, and Junior Apricots and Oatmeal.

Literature available for office and patient's use.

HOLLAND-RANTOS COMPANY, INC. Booth 83
New York, New York

H-R Exhibit will feature: Hyva Gentian Violet Vaginal Tablets. A simple antimycotic treatment: Antibiotic Moniliasis, Diabetic Vulvitis, Mixed Infections.

Improved Nylmerate Jelly and Nylmerate Antiseptic Solution Concentrate for: Trichomoniasis, Leukorrheas and Mixed Infections.

Hollandex Skin Ointment for dermal disorders—diaper rash, chafing, skin dryness, prickly heat, sunburn.

Kormex *A* Vaginal Jelly for conception control when "Jelly Alone" is advised.

Koro-Flex Contouring Diaphragms and Sets.

Koromex Contouring Diaphragms and Sets.

JOHNSON & JOHNSON Booth 55
New Brunswick, New Jersey

Johnson & Johnson will display the latest improvements in surgical dressings, as developed by the Johnson & Johnson Research Laboratories. Of special interest is Surgicel Absorbable Hemostat, a major advance in the control of hemorrhage which does not depend upon the normal clotting mechanism. Other products, designed for your office, hospital or patient use, are also displayed. You will find well-informed representatives pleased to discuss these products or provide information on any other items made available by the world's largest manufacturer of surgical dressings and baby products.

KENWOOD LABORATORIES, INC. Booth 54
New York — California

Featured in our display are Papavatral L.A. Capsules, the Continuous Controlled Release combination of a vasodilator and smooth muscle relaxant for the treatment of angina pectoris and peripherovascular diseases. Also shown will be Kenpectin, the antidiarrheal mixture with Coca-Cola syrup.

KEY PHARMACEUTICALS, INC. Booth 60
Miami, Florida

Nitroglyn Tablets hold the Key spotlight at our booth. Reports indicate advantages in administration of Nitroglyn B.I.D. for angina pectoris due to coronary sclerosis and their suggested regimen to replace daily use of ten to twenty doses of sublingual nitroglycerin. Now available in three dosage forms: 1/50 gr., 1/25 gr. and 1/10 gr. Carbamine: Complete therapy for peptic ulcers and associated disorders.

Theo-Nar: For relief of symptoms of both bronchial and cardiac asthma. Processed to provide immediate relief of symptoms and then additional dosage released in four hours to continually maintain adequate blood level for continuing relief of symptoms over an 8-hour period.

LAKESIDE LABORATORIES, INC. Booth 84
Milwaukee, Wisconsin

Imferon, Dactilase, and Cantilyn will be featured at the Lakeside exhibit. (Dactilase is a new spasmogestant for rapid and noticeable relief of gas, bloating, belching—whereas Cantilyn offers a palatable and effective antidiarrheal combination). Complete descriptive information and clinical references will be available. In addition Lakeside's family of diuretics including Mercuhydrin and Metahydrin will be on display. You are cordially invited to visit our exhibit. Professional Service Representatives will be in attendance, and registration forms for requesting clinical samples will be available.

LEDERLE LABORATORIES Booth 1
Pearl River, New York

Your Lederle representative will be on hand to serve you. He can furnish information on any Lederle product and is prepared to bring to bear on any of your medical problems the knowledge of the worldwide Lederle research organization.

ELI LILLY AND COMPANY Booth 22
Indianapolis, Indiana

You are cordially invited to visit the Lilly exhibit located in space No. 22. The Lilly sales people in attendance welcome your questions about Lilly products and recent therapeutic developments.

J. B. LIPPINCOTT COMPANY Booth 78

Philadelphia, Pennsylvania

J. B. Lippincott Company presents, for your approval, a display of professional books and journals geared to the latest and most important trends in current medicine and surgery. These publications, written and edited by men active in clinical fields and teaching are a continuation of more than 100 years of traditionally significant publishing.

LLOYD BROTHERS, INC. Booth 79

Cincinnati, Ohio

Welcome to the Lloyd Brothers exhibit. Our professionally trained sales representatives will be pleased to greet you and discuss the merits of our products in your practice. Of particular interest will be a new booklet on erythropoietin, the erythropoietic hormone.

LOMA LINDA FOOD COMPANY Booths 48 & 98

Arlington

SOYALAC—With the background of years of experience in perfecting a hypoallergenic milk powder, and also a newly developed concentrated liquid milk the protein of which is fully derived from the soybean and formulated with other essential additives to care for the needs of babies, growing children, and adults, the Loma Linda Food Company will be happy to welcome you to their exhibit. Attendants will be pleased to discuss the values of Soyalac powder and concentrated liquid. Samples of this flavorful product will be served at the exhibit.

Vegetable Protein Foods: The world's largest manufacturer of vegetable protein foods extends an invitation to you to sample their tasty meat-like products at their exhibit. They are being presented to the profession because they are ideal for the atherosclerotic or high serum cholesterol patient since they contain no animal or hydrogenated fats. These low fat, high protein foods contain only liquid vegetable oils. The foods also are ideal for weight control since they are extremely low in calories.

P. LORILLARD COMPANY Booth 51

New York, New York

P. Lorillard Company invites you to visit the Kent Cigarette Exhibit.

We are presenting the Story of Kent Cigarettes. And a big part of that story is why you'll feel better about smoking with the taste of Kent.

Kent with the Micronite filter refines away harsh flavor . . . refines away hot taste . . . makes the taste of a cigarette mild.

A table cigarette box with your signature in gold will be a pleasant souvenir of your visit to the convention.

LOV-É BRASSIERE COMPANY Booth 105

Hollywood

You are invited to view our complete line of custom-fitted brassieres designed to provide corrective support for specific breast conditions in exact accordance with the physician's instructions. We also would like to show you our new and improved breast prosthesis, the LOV-É "TWIN" breast form. This new form provides adjustable weight for perfect balance, ideal for all-occasion wear, custom-fitted and weight-adjusted to the individual's need. Our special representative will be happy to greet you and answer any questions.

MAGNUSON X-RAY CO. Booth 13

Los Angeles — San Francisco

Showing the complete Profexray 100 MA.—100 KVP. Radiographic Unit with treatment type table, Recipromatic Bucky and Console Control, having 1/30 second electronic Timer. Ideally suited for offices with limited floor space. In addition, various items of lead protective materials, including Protective Screens and Cones.

MARSHALL ERDMAN & ASSOCIATES, INC. Booth 89

Santa Barbara

Pictures and typical floor plans of Marshall Erdman pre-cut and pre-fabricated custom-designed medical office buildings for doctors in solo or group practice. Marshall Erdman & Associates, Inc., specialists with over 10 years experience in designing, engineering and building quality office buildings for doctors in over 25 states. A complete building service.

THE S. E. MASSENGILL COMPANY Booth 90

Bristol, Tennessee

Best wishes from Massengill to the California Medical Association for a most successful 1962 convention! Massengill representatives will be honored to discuss any products of interest to you. On display will be TRIMAGILL, the outstanding new product for vaginal therapy; MASSENGILL POWDER, the preferred vaginal douche; ADRENOSEM, the unique systemic hemostat; OBEDRIN, superior reducing aid; TACOL, decongestant, antihistaminic, antitussive, analgesic complete cold treatment therapy; LIVITAMIN, the hematinic of choice. Of course, literature and samples will be available should you desire them.

McNEIL LABORATORIES, INC. Booth 26

Philadelphia, Pennsylvania

Members of the California Medical Association are cordially invited to visit our Booth No. 26, Mr. D. G. Livingston in charge. Products to be featured are Butibel,® Butigetic,* Butisol Sodium® butabarbital sodium and Parafon Forte.®

MEAD JOHNSON LABORATORIES Booth 75

Evansville, Indiana

The Mead Johnson Laboratories' exhibit has been arranged to give you the optimum in quick service and product information. To make your visit productive, specially trained representatives will be on duty to tell you about their products.

MEDCO PRODUCTS CO. Booth 10

Tulsa, Oklahoma

Presenting the MEDCO-SONLATOR. Providing a new concept in therapy by combining muscle stimulation and ultra sound simultaneously through a SINGLE Three-Way Sound Applicator.

The MEDCO-SONLATOR is a distinct advance in the effectiveness of physical therapy in your office or hospital. A few minutes spent in our booth should prove of value to your practice.

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*Trademark.

THE MEDICAL PROTECTIVE COMPANY Booth 97

Fort Wayne, Indiana

As the No. 1 Malpractice Insurer, The Medical Protective Company offers unexcelled coverage. With exceptional proficiency in defense, so essential to the Doctor's protection today, its experience in successfully handling 82,000 claims and suits during sixty-three years of Professional Protection Exclusively is unparalleled in the professional liability field.

MERCK SHARP & DOHME Booth 74

West Point, Pennsylvania

The theme of the Merck Sharp & Dohme exhibit is "SERVICE TO MEDICINE." One phase features the details of the Merck Sharp & Dohme Postgraduate Program. Another feature includes information on teaching films for use by the profession, and also, lay films that can be utilized to portray the story of medicine to the lay public. The exhibit is concluded with a display of finger-tip files on selected Merck Sharp & Dohme products.

MILEX-FERTILEX COMPANY Booth 103

Los Angeles

Improved instrument for Pap smears. Marital guide, teenage guide, book on menopause. Products to aid physicians with infertility problems.

MISSION PHARMACAL COMPANY Booth 62

San Antonio, Texas

Mission will present the following products: Homapin-4, a potent antispasmodic which is reported to be four times as potent as atropine in depressing ganglionic transmission; Prulet tablets, a gentle laxative, containing an active ingredient which is analogous to a substance found in prunes; Supac-B, analgesic tablet, is a superior buffered A.P.C.

THE MUTUAL BENEFIT LIFE INSURANCE CO. Booth 88

Newark, New Jersey

"Financial Planning for the Physician." Representatives with special training and knowledge that enables them to understand the physician's unique financial problems can supply information and ideas that help the physician build and keep financial assets. Tax Teller available at booth without obligation gives valuable facts in intriguing form. Represented in California since 1849. Mutual Benefit Life has offices in San Francisco, San Jose, Los Angeles and San Diego.

THE NATIONAL DRUG COMPANY Booth 49

Philadelphia, Pennsylvania

Tepanil is a completely new compound that curbs the appetite with little or no CNS stimulation.

Orenzyme is the first oral anti-inflammatory enzyme tablet on the market. Orenzyme is indicated for the treatment of any acute inflammatory process when swelling slows recovery.

AVC Improved Suppositories—A completely new vaginal suppository providing all the proven effectiveness of AVC Improved Cream. AVC suppositories are highly effective in controlling all the common types of vaginal infections—trichomonal, bacterial and fungal.

Kaoresin is a palatable, taste-tested antidiarrheal suspension consisting of 5 adsorbing agents—including an ion exchange resin that acts like a magnet—to remove the toxic irritants that cause diarrhea.

THE NETTLESHIP COMPANY OF LOS ANGELES Booth 29

Los Angeles

Administrators of Professional Liability, Group Accident and Sickness, and Life Insurance Programs for County Medical Associations in Southern California.

Qualified representatives available to discuss problems pertaining to hospital or individual professional liability coverage, accident and sickness, life, or other types of insurance.

Literature, which will assist in the prevention of claims and various forms to be used to protect, as far as possible, against malpractice claims.

ORTHO PHARMACEUTICAL CORPORATION Booth 8

Raritan, New Jersey

On display at Booth 8 are the well-known products for the control of conception. Of special note is DELFEN Vaginal Cream, the most spermicidal contraceptive.

Also being presented is new data on ACTASE Fibrinolysin (Human) in a new potency, facilitating the lysis of intravenous clots in an extended therapeutic range.

Your questions on these and our other products will be most welcomed.

ORGANON INC. Booth 92

West Orange, New Jersey

Physicians are cordially invited to visit the Organon booth for information on useful therapeutic specialties. Included among these will be: DURABOLIN, a totally new anabolic stimulant offering prolonged tissue-building action; CORTROPHIN-ZINC, the long-acting aqueous ACTH indicated for the relief of allergic and inflammatory disorders; COTAZYM; COTAZYM-*B* and WIGRAINE. Organon representatives will gladly discuss these specialties with all interested physicians.

PARKE, DAVIS & COMPANY Booth 108

Detroit, Michigan

Medical service members of our staff will be in attendance at our booth to discuss important Parke-Davis specialties which will be on display.

PASADENA RESEARCH LABORATORIES, INC. Booth 28

Pasadena

Our exhibit, this year will feature four of our products. OBTHERIC, a prenatal formula featuring a very high calcium content plus significant potencies of other critical nutritional factors, for the pregnant patient and at a very moderate prescription cost.

We will also present VIATRIC injectable, a formula of balanced hormones and B vitamins for anabolic effect in the aging patient.

ESTRIN Q. S. is our latest refinement in the field of injectable estrogenic therapy. This product provides the advantages of both quick and sustained effect.

CALCEE is our well established formulation of Calcium salts and Vitamin C in painless, intramuscular form.

PERSON & COVEY, INC. Booth 67

Glendale

Person & Covey representatives will be on hand to discuss our latest medical specialties with you.

PHARMACIA LABORATORIES, INC. Booth 30
New York, New York

Pharmacia Laboratories, Inc., 501 Fifth Avenue, New York, New York, will exhibit its product, Azulfidine, a new sulfa compound for the treatment of ulcerative colitis and regional enteritis. Also, Pharmacia will exhibit Pharmalax, "the suppository with enema-like action." The quick action of Pharmalax causes defecation through mechanical stimulation of the intestinal musculature by carbon dioxide released from the suppository. Skopyl, a new concept in the medical treatment of infant colic will also be displayed. Literature and important reprints will be available upon request.

PLOUGH LABORATORIES, INC. Booth 33
Memphis, Tennessee

The Plough Laboratories display includes two demonstrations of the unique pharmacological activity of Silain, a gastrointestinal defrothicant.

In vitro—Silain breaking the foam which holds much gas—aids in its elimination.

In vivo—gastroscopic photographs show Silain's effect on foam in the stomach.

THE PROCTER & GAMBLE COMPANY Booth 46
Cincinnati, Ohio

Ivory Soap (Procter & Gamble) offers a series of time-saving leaflet pads for doctors, each pad containing fifty identical tear-out sheets. These sheets, which may be given to patients, contain routine instructions covering six different topics. There are also samples of other free, helpful material prepared especially for physicians.

THE PURDUE FREDERICK COMPANY Booth 80
New York, New York

Senokot Granules and Senokot Tablets: Standardized concentrate of total senna pod principles used in the management of constipation. Correction of constipation is physiologically gentle and neurogenically persuasive. Senokot Granules are pleasantly cocoa flavored. Product samples and Product Data Brochures are available at The Purdue Frederick booth.

Paremycin® Elixir: Combining neomycin sulfate and tincture of opium for duoclassic anti-diarrhea therapy. Delicious banana flavor. Full product disclosure available at our booth.

R. J. REYNOLDS TOBACCO COMPANY Booth 93
Winston-Salem, North Carolina

Welcome to the R. J. Reynolds Tobacco Company Exhibit! You are cordially invited to receive a cigarette case (monogrammed with your initials) containing your choice of Camel, Winston Filter, Menthol Fresh Salem, or Cavalier King Size Cigarettes.

RIKER LABORATORIES, INC. Booth 70
Northridge

RITTER COMPANY, INC. Booth 16
Rochester, New York

Tired of bending and stooping, doctor? Qualified representatives can show you the effortless operation of the Ritter Universal and Specialists Tables.

The popular Speedclave and Model 999 Autoclave as well as the new Castle No. 8 Diagnostic Light will be displayed.

The L-F Office Bovie and Self-Calculating BasalMeteR can be demonstrated at your request.

A. H. ROBINS COMPANY, INC. Booth 109
Richmond, Virginia

Heard any digestive complaints lately? Check at the Robins display on the natural supplement for digestive enzymes, Enterozyme, and the time-tested sedative-antispasmodic, Donnatal. For "nervous indigestion" these widely accepted products are combined in Donnazyme.

Also featured: Dimetane Extentabs for unsurpassed, 10-to-12 hour antihistaminic potency with placebo-like side effects, and new Robanul, the "rigid-ring" anticholinergic for duodenal ulcer.

ROCHE LABORATORIES Booth 73
Nutley, New Jersey

Librium—A therapeutic agent for superior, safer, faster control of nervousness, anxiety, tension and other common emotional disturbances without the dulling effect or depressant action of the tranquilizers.

Gantanol—A single sulfonamide for the common bacterial infections encountered in daily practice.

J. B. ROERIG AND COMPANY Booth 102
New York, New York

J. B. Roerig and Company will welcome members of the medical profession at the company's exhibit of leading specialties and new products. Representatives will be in attendance to answer any questions you may have. Roerig recently introduced a number of new products which representatives at the exhibit will describe and give information on the results of clinical reports.

SANBORN COMPANY Booth 43
Waltham, Massachusetts

The new Sanborn/Frommer Cell Counter as well as new Electrocardiographs of advanced design and function together with the latest models of other instruments for diagnostic use, will be displayed and demonstrated at the Sanborn Company Booth No. 43.

Demonstrations and/or data will also be available on Sanborn instruments for biophysical research—single and multi-channel recording systems, monitoring oscilloscopes and physiological transducers.

Qualified Sanborn representatives will be pleased to answer questions and assist you with technical problems.

SANDOZ PHARMACEUTICALS Booth 7
Hanover, New Jersey

Sandoz Pharmaceuticals cordially invites you to visit our display at Booth No. 7.

Mellaril—The first selective phenothiazine exhibiting potent tranquilizing activity without antiemetic action. The greater toleration, notably relative absence of extra pyramidal symptoms, enhances its usefulness in management of major and minor emotional disorders.

Torecan—As a sequel to the original research which led to the synthesis of Mellaril, a tranquilizer relatively devoid of antiemetic activity, the Sandoz Laboratories have now succeeded in developing a potent antiemetic with little or no tranquilizing properties. Accordingly, this compound, TORECAN, constitutes a more specific antiemetic and the results obtained to date indicate that it is a promising agent for the treatment of nausea and emesis of diverse etiology.

Any of our representatives in attendance, will gladly answer questions about these and other Sandoz products.

W. B. SAUNDERS COMPANY Booth 76

Philadelphia, Pennsylvania

New Saunders books of special clinical interest include: Current Therapy 1962; Florey: Pathology; Owen: Hospital Administration; Hogan & Zimmerman: Ophthalmic Pathology; Lore: Atlas of Head and Neck Surgery; and Major & Delp: Physical Diagnosis.

SCHAFFER LABORATORIES Booth 53

Montrose

TRIOPHYLL, used in the treatment of bladder and urethral infections and in gynecology.

SCHERING CORPORATION Booth 3

Bloomfield, New Jersey

You are cordially invited to visit the Schering technical exhibit where the following products will be featured: Naqua, effective oral diuretic—and antihypertensive; Chlor-Trimeton, unsurpassed antihistamine; and Celestone, most active corticosteroid available.

SCHIEFFELIN & CO. Booth 21

New York, New York

SCHIEFFELIN & CO. is exhibiting several products of importance and interest to the physician. Among these products are the Resulin products for acne, and Neo-Resulin-F, a dermatological that offers four pronged action for acne therapy. Another efficacious dermatological being exhibited is Hydro-Tar, which offers the patient a therapeutic combination of crude coal tar and hydrocortisone. Also of interest to the attending physician is Estivin, the ophthalmic preparation suggested for hay fever and other minor ocular allergic irritations.

The ALMAY hypo-allergenic cosmetic division will also exhibit a complete line of fashion oriented cosmetic products.

Professional representatives from Schieffelin & Co. will be at your service to discuss the above mentioned products, as well as other products.

JULIUS SCHMID, INC. Booth 47

New York, New York

An interesting and informative exhibit featuring IMMOLIN Vaginal Cream-Jel for use without a diaphragm; RAMSES Flexible Cushioned and BENDEX Diaphragms; RAMSES Vaginal Jelly; VAGISEC PLUS Jelly and Liquid for vaginal trichomoniasis therapy; and XXXX (FOUREX) Skin Condoms, RAMSES and SHEIK Rubber Condoms for the control of trichomonal reinfection.

G. D. SEARLE & CO. Booth 40

Chicago, Illinois

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research.

SHERMAN LABORATORIES Booth 82

Detroit, Michigan

ELIXOPHYLLIN—Severe asthmatic attacks are not merely relieved, but *terminated* in 10 to 20 minutes by Elixophyllin, given *orally*. In milder attacks, its speed has been described as "instantaneous."

Wheezing, retrosternal congestion and coughing caused by bronchospasm are usually relieved in 15 minutes following a dose of 45 cc. of Elixophyllin.

Vital capacity increases were noted as soon as 5 minutes after administration. Pick up these data and reports on their clinical significance at the Sherman booth.

SMITH KLINE & FRENCH LABORATORIES Booth 25

Philadelphia, Pennsylvania

Our Representatives welcome the opportunity to discuss SK&F products with you and are always ready to be of help in any way they can. Products featured are: (1) Parnate® Tablets; (2) Eskatrol® Spansule® capsules; and (3) Ornade® Spansule® capsules.

SMITH, MILLER & PATCH, INC. Booth 65

New York, New York

SMITH, MILLER & PATCH, INC.—Featured are TEMPOTRIAD a new psychokinetic activator designed to give a lift to the lethargic, elevate mood, counteract sleepiness, relieve depression and produce a sense of well-being. In liquid or tablet dosage.

VITRON C—A potent oral hematinic, ferrous fumarate with ascorbic acid, VITRON-C has been clinically proven to be effective in treating iron deficiency anemia with a high degree of toleration in patients with gastrointestinal irritability or ulcerative disease. A chewable pleasantly flavored sugar-free tablet that offers iron with maximum toleration.

BISTRIMATE—A safe, effective and economical therapeutic to combat subacute, chronic or recurrent sore throat. Preliminary tissue studies indicate BISTRIMATE has an antiviral effect on Adenovirus type 3 and Adenovirus type 7. No serious reactions to BISTRIMATE have been noted in over 15 years' use.

TRULASE—The only digestive aid designed to help prevent postprandial pain and discomfort due to inadequate digestion. Acts physiologically without delay. Contains three essential enzymes standardized to assure dependable activity.

SMITHERS SONS LIMITED Booth 94

Los Angeles

Smithers announces New Varieties of Entrees—All LOW FAT-LOW CALORIE—Chili Con Carne, Chicken and Broad Noodles, Corned Beef Hash, Lasagna with Cheese, Lasagna with Meat and Cheese, Spaghetti and Meat Balls, Spaghetti in Tomato and Cheese Sauce.

Dr. F. J. Cahn, director of Smithers Research Laboratory, states that "a complete meal of these Low Calorie-Low Fat products, consisting of soups or appetizers, entree, salad and dessert, contain less than 400 calories—yet are nutritional and well-balanced, and provide the amount of protein recommended by the National Academy of Science, National Research Council."

Literature includes "The Friendly Calorie—Compare the Calorie." Please register for this.

SPENCER INCORPORATED Booth 59
New Haven, Connecticut

Every Spencer Support is individually designed, cut and manufactured according to prescription needs, for men, women or children, to assist in corrective and rehabilitative treatment. You are cordially invited to visit the Spencer booth to see samples of our supports or to inquire about supports for the specific requirements of patients. Ask about our Spencer Emergency Service for patients requiring immediate support. You may register for a posture manikin and a simulated vertebrae model.

E. R. SQUIBB & SONS Booth 107
New York, New York

E. R. Squibb & Sons has long been a leader in development of new therapeutic agents for prevention and treatment of disease. The results of our diligent research are available to the Medical Profession in new products or improvements in products already marketed.

At Booth No. 107, we are pleased to present up-to-date information on these advances for your consideration.

J. W. STACEY, INC. Booth 111
Palo Alto

Stacey's, established for over 35 years, provides the doctor in the West with a source of supply of all medical books. At Booth 111 you will find on display the latest books in medicine, surgery, and the specialties. You are invited to browse at your leisure.

THE STUART COMPANY Booth 71
Pasadena

A cordial invitation is extended to all members and guests attending this meeting to visit the Stuart Company booth. Specially trained representatives will be in attendance to answer your questions on new products developed in our new and modern laboratories which have received international acclaim.

TAB PRODUCTS CO. Booth 24
San Francisco

Spacefinder Files and Unit Spacefinder Files—The most modern, efficient and economical system of filing medical records and documents of regular or varied sizes. This system brings new speed, flexibility and economy to filing operations.

TESTAGAR & CO., INC. Booth 35
Detroit, Michigan

Testagar & Co., Inc., invites you to stop at their booth to see their newest release "Redoderlein"—Replacement Doderlein Bacillus therapy. Doderlein Bacillus is a recognized therapy in a convenient, stable, readily available form. Redoderlein may be the therapy of choice in vaginitis; Trichomonas, Monilial, Senile or Nonspecific. Stop at our booth and receive literature on the newest concept in the treatment of various forms of vaginitis.

TRU-EZE MFG. CO., INC. Booth 15
Burbank

What's New in Traction? Tru-Eze Will Be Exhibiting the New "Tru-Trac" electronically controlled portable intermittent traction machine. Economically priced, completely versatile and light weight. Automatically takes up to 30 inches of slack pulling preset poundage accurately up to 100 lbs. Hold and Rest timers may be set at intervals of zero to 15 seconds. Length of treatment may be preset up to one hour signalling the operator when through, completes the cycle and automatically shuts off at zero. Dependable! *Does not* require supervision.

The advantages of the "Tru-Trac" Traction and Therapy Table with free-wheeling ball-bearing rollers (to reduce friction in lumbar traction) will be demonstrated; also the "Tru-Trac" Flexion Traction Chair.

U. S. VITAMIN & PHARMACEUTICAL CORPORATION, New York, New York Booth 41

On display—Arlidin—a specific safe vasodilating, vasorelaxant drug which effectively increases blood flow to the brain, inner ear, eye and extremities. In arteriosclerosis obliterans, diabetic vascular disease, thromboangiitis obliterans and ischemic ulceration, Arlidin increases walking ability; promotes healing of ulcers; alleviates pain, ache, spasm and numbness.

THE UPJOHN COMPANY Booth 2
Kalamazoo, Michigan

Professional representatives of The Upjohn Company are eager to contribute to the success of your meeting. We are here to discuss with you products of Upjohn research that are designed to assist you in the practice of your profession. We solicit your inquiries and comments.

VAPONEFRIN COMPANY Booth 63
New York, New York

Exhibited will be: (1) Vaponefrin Solution, 2.25 per cent Solution of racemic epinephrine, as hydrochloride, equivalent in potency to 1.25 per cent U.S.P. Reference Standard Epinephrine by bio-assay produces prompt bronchodilation for effective relief of bronchial asthma, emphysema, chronic bronchitis, or other respiratory diseases; is notably free of side effects. (2) The Vaponefrin nebulizers are specially engineered and constructed to deliver particles in the desirable range of 0.5 to 3 microns for maximum disposition in the bronchi and bronchioles.

WALKER LABORATORIES, INC. Booth 77
Mount Vernon, New York

Featured at the Walker Booth: Nicalex for safe, effective reduction of serum and tissue cholesterol as well as phospholipids and triglyceride levels.

Also featured, new clinical information regarding the effect of Hedulin and other anticoagulants upon lipid metabolism.

WALLACE LABORATORIES Booths 38 & 39
Cranbury, New Jersey

Wallace Laboratories' exhibit features information on Capla, a new kind of drug for the treatment of hypertension. Capla acts specifically on the brain centers that control blood pressure, rather than indirectly or peripherally, like older antihypertensives. It has proved nontoxic in clinical use, and side effects are limited to occasional cases of drowsiness, usually transient in nature.

WAMPOLE LABORATORIES Booth 32
Stamford, Connecticut

VōSoL Otic Solution and VōSoL-HC, for the treatment and prevention of otitis externa. VōSoL Otic Solution is bactericidal and fungicidal. The hydrocortisone in VōSoL-HC helps reduce inflammatory swelling and relieve symptoms such as itching and pain.

Avazyme (the first all chymotrypsin tablet) is an anti-inflammatory enzyme preparation as efficacious as an injection. Studies using human intestinal juice show chymotrypsin is 5 to 8 times more stable than trypsin.

Alvinine Shampoo—a new agent for the treatment of seborrhea capitis.

WARNER-CHILCOTT LABORATORIES Booth 45
Morris Plains, New Jersey

Gelusil—The physician's antacid—for the relief of gastric hyperacidity and management of peptic ulcer. Provides two protective coating gels for prompt, prolonged relief of pain. Gelusil is all antacid in action—is non-constipating, contains no laxative.

Peritrate—A long-acting coronary vasodilator for patients with coronary artery disease—whether angina pectoris or coronary occlusion. Peritrate improves coronary blood flow, thereby increasing collateral circulation, with no significant change in blood pressure or pulse rate. Smooth onset of action virtually eliminates nitrate headache.

WESTWOOD PHARMACEUTICALS Booth 86
Buffalo, New York

Westwood invites physicians to stop by their booth to discuss their unique dermatological products: Fostex Cream, Fostex Cake, Lowila Cake, Lowila Emollient, Sebulex, Fostril, Alpha-Keri.

These products are particularly suitable for personal use by physicians and their families who may be plagued with dandruff, acne, dry and itchy skin, and sensitivities to soap. Register, so that we may send prescription units to your home.

WHITE LABORATORIES, INC. Booth 69
Kenilworth, New Jersey

White Laboratories' exhibit features Sorboquel Tablets (polycarbophil-thihexinol methylbromide)—the result of a decade of laboratory experimentation and over five years of clinical confirmation. Sorboquel Tablets, a totally new agent for truly effective control of both chronic and acute diarrhea, have been demonstrated effective in 85 per cent of chronic and 94 per cent of acute cases of diarrhea.

Gitaligin Tablets (amorphous gitalin)—which have been described as a "... digitalis preparation of choice"—will be on display at Booth No. 69. White's Representative will appreciate the opportunity to discuss with you the clinical background and therapeutic merit of this and other outstanding White's products.

White Laboratories' exhibit features Permitil Chronotab tablets (brand of repeat-action tablets of fluphenazine dihydrochloride). Just one Chronotab tablet daily provides uninterrupted day-long control of anxiety symptoms. Permitil Chronotab tablets are indicated for the control of the multiple symptoms of emotional stress and distress commonly presented in everyday office practice.

WINTHROP LABORATORIES Booth 61
New York, New York

Winstrol, the new complete "physiotonic" for the underweight, the weak and debilitated. Builds body tissue, confidence and alertness. Winstrol is highly active orally, simple to administer and suitable for prolonged therapy in most cases.

Isuprel® Elixir, a new balanced expectorant bronchodilator which contains three antiasthmatics—Isuprel, ephedrine, theophylline—with the expectorant, potassium iodide and Luminal® for a mild sedative effect.

W.T.S. PHARMACEUTICALS Booth 9
Division, Wallace & Tiernan, Inc.
Belleville, New Jersey

Desenex: Most widely prescribed fungicide used in the prevention and treatment of athlete's foot and other superficial fungous infections of the skin.

Caldesene: Provides a lubricating and emollient film which is effective in the prevention of diaper rash and minor skin irritations.

Mr. Charles Weekes and Mr. James Williams will gladly answer all questions regarding these products.

VISIT SCIENTIFIC AND TECHNICAL EXHIBITS

WOMAN'S AUXILIARY *to the* CALIFORNIA MEDICAL ASSOCIATION

Thirty-second Annual Convention, April 15 to 18, 1962

Headquarters: Fairmont Hotel, San Francisco

MRS. LAWRENCE CUSTER, President

MRS. FLOYD K. ANDERSON, President-Elect

Convention Chairman: MRS. MATTHEW N. HOSMER
Convention Co-Chairman: MRS. EUGENE S. HOPP

REGISTRATION

Empire Room

Sunday, April 15.......9:00 a.m. to 5:00 p.m.
Monday, April 16.......9:00 a.m. to 5:00 p.m.
Tuesday, April 17.......9:00 a.m. to noon

SATURDAY, APRIL 14

7:30 p.m.—Annual Report of the Woman's Auxiliary by the President, Mrs. Lawrence Custer, to the California Medical Association House of Delegates, Room of the Dons, Mark Hopkins Hotel. All doctors' wives are invited to attend. (Auxiliary members will not register for this meeting. Woman's Auxiliary Registration will start Sunday morning.)

SUNDAY, APRIL 15

9:00 a.m.—Executive Committee Breakfast Meeting, 20th Century Room.

2:30 p.m.—Pre-Convention Board Meeting, 20th Century Room.

7:00-8:00 p.m.—California Medical Association Reception (admittance by ticket to Presidents' Dinner), Fountain and Crystal Rooms.

8:00 p.m.—Presidents' Dinner and Ball honoring the President of the California Medical Association, Dr. Warren L. Bostick, and the President of the Woman's Auxiliary to the California Medical Association, Mrs. Lawrence Custer, Venetian Room. Formal dress optional.

MONDAY, APRIL 16

9:00 a.m.—First Business Meeting, Gold Room.

12:30 p.m.—Luncheon, Gold Room, Terrence O'Flaherty, guest speaker.

2:00 p.m.—Second Business Meeting, Gold Room.

TUESDAY, APRIL 17

9:00 a.m.—Third Business Meeting, Gold Room.

12:45 p.m.—President's Luncheon honoring Mrs. Floyd Anderson, Past State Presidents, members of State Advisory Board and wives, Tonga Room.

3:30 p.m.—Post-Convention Board Meeting, Mrs. Floyd Anderson, presiding, State Room.

WEDNESDAY, APRIL 18

9:00 a.m.—Special Orientation Meeting. For 1962-63 State Board Members, District Councilors and County Presidents. Incoming County Board Members also welcome. Mrs. Floyd Anderson, presiding, Empire Room.

CALIFORNIA
MEDICAL
ASSOCIATION

Organizational Section

1962 HOUSE OF DELEGATES

Peacock Court and Room of the Dons
MARK HOPKINS HOTEL, SAN FRANCISCO

April 14 to 18, 1962

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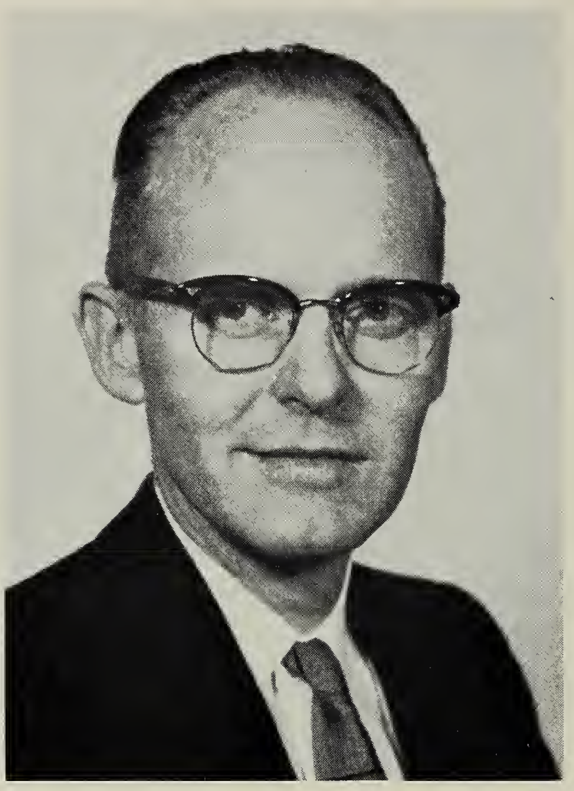

WARREN L. BOSTICK
President

OMER W. WHEELER
President-Elect

OFFICERS AND DELEGATES

General Officers

Warren L. Bostick, San Rafael	President
Omer W. Wheeler, Riverside	President-Elect
James C. Doyle, Beverly Hills	Speaker of House of Delegates
Ivan C. Heron, San Francisco	Vice-Speaker of House of Delegates
Samuel R. Sherman, San Francisco	Chairman of Council
Matthew N. Hosmer, San Francisco	Secretary
Dwight L. Wilbur, San Francisco	Editor
John Hunton	Executive Secretary
Howard Hassard	Executive Director
Peart, Baraty & Hassard	Legal Counsel

House of Delegates

TOTAL DELEGATES (415)

DELEGATES EX-OFFICIO (48)

Warren L. Bostick, San Rafael	President
Omer W. Wheeler, Riverside	President-elect
James C. Doyle, Beverly Hills	Speaker of House of Delegates
Ivan C. Heron, San Francisco	Vice-Speaker of House of Delegates
Samuel R. Sherman, San Francisco	Chairman of Council
Matthew N. Hosmer, San Francisco	Secretary
Dwight L. Wilbur, San Francisco	Editor

COUNCILORS

James C. MacLaggan (1964)	First District
L. E. Wilson (1964)	Second District
Malcolm C. Todd (1962)	Office No. 1, Third District
William F. Quinn (1963)	Office No. 2, Third District
J. Norman O'Neill (1964)	Office No. 3, Third District
Arthur A. Kirchner (1962)	Office No. 4, Third District
Joseph P. O'Connor (1963)	Office No. 5, Third District
Franklin F. Ham (1964)	Office No. 6, Third District
Wilbur G. Rogers (1962)	Office No. 7, Third District
James W. Dalton (1964)	Fourth District
John F. Murray (1963)	Fifth District
Burt L. Davis (1964)	Office No. 1, Sixth District
Albert G. Miller (1962)	Office No. 2, Sixth District
Samuel R. Sherman (1963)	Office No. 1, Seventh District
Donald M. Campbell (1964)	Office No. 2, Seventh District
John G. Morrison (1963)	Office No. 1, Eighth District
William F. Kaiser (1964)	Office No. 2, Eighth District
Carl E. Anderson (1964)	Ninth District
Ralph C. Teall (1962)	Tenth District

ELECTED DELEGATES (368)

Alameda-Contra Costa County (31)

Delegates	*Alternates*
Ackerman, Frederick	Adams, Robert
Anderson, Charles	Baker, Edward
Anderson, Conrad	Benson, K. W.
Armstrong James	Black, Daniel
Bagley, Richard	Brown, Lawrence E.
Bassett, J. Brandon	Byers, Gilbert
Blasdel, Edward	Cannon, Lawrence
Cronenwett, Paul	Charvet, Leonard
Dimmler, Charles	Cobb, B. Otis
Dodds, Donald	Cope, J. Hallam
Dugan, David	Dozier, Thomas
Etheredge, Samuel	Ellis, Grant
Gadwood, Bernard B.	Harms, Herbert E.
Gersten, Samuel	Hart, Charles
Goetsch, Carl	Hart, Melvin
Goggio, Alfred	Henderson, Ernest
Harvey, Harold	Holden, Herbert
Hoskins, H. Dean	Johnston, Ian
Hudson, Charles	Keig, William C.
Iwig, Samuel	Kerns, Claude
Kay, Harold	Maloney, Harold
Kirk, Ralph	Newkirk, John
Leet, Robert S.	Page, William
Mitchell, Alan	Powell, Oscar
Peterson, H. Harvey	Rihn, Richard
Richards, Dexter, Jr.	Ross, Joseph
Royce, Byron	Smith, C. Reed
Stephens, George	Taines, Robert
Truman, Stanley R.	Twiss, Arthur
Tucker, Dan	Whiting, E. Gale
Twigg, Edward	Wilson, Francis

Butte-Glenn County (2)

Delegates	*Alternates*
Elmendorf, Thomas	Chiapella, W. C.
Lawrence, W. Sherwood	Murphy, Franklin L.

Fresno County (6)

Delegates	*Alternates*
Argo, W. L.	Gray, Clell C., Jr.
Fulmer, Harlan	Hollingsworth, J. B.
Howard, Arthur F.	Ludwig, Charles
Kass, Robert	Polhemus, J. A.
Smith, Robb	Whitten, Richard
Snyder, L. J.	

Humboldt-Del Norte County (2)

Delegates	*Alternates*
Eley, James S.	Henderson, Justus
Olson, Fred A.	Loring, Theodore

Imperial County (2)

Delegates	*Alternates*
Jaquith, George	Tepper, Sidney M.
Schoensee, Burke E.	Worthman, Robert H.

Inyo-Mono County (2)

Delegates	*Alternates*
Curtis, C. C.	Denton, Robert W.
Scott, C. L.	Zimmerly, Winfred

Kern County (5)

Delegates	*Alternates*
Day, Robert L.	Cunningham, Ralph
Forney, Robert L.	Ellis, John F.
Patrick, Robert A.	Iger, Mortimer
Strongin, Seymour	Osell, Levin N.
Vaughan, J. E.	Seibly, J. S.

Kings County (2)

Delegates	*Alternates*
Chamlee, William F.	Christensen, L. F.
Kerr, Edwin E.	Sorensen, N. F.

Lassen-Plumas-Modoc-Sierra County (2)

Delegates	*Alternates*
Bross, Willard S., Jr.	Batson, Wilbur C.
Burnett, C. I.	Quinn, William J.

Los Angeles County (143)

Delegates	*Alternates*
Abbey, John D.	Abo, Stanley
Andler, Maxwell M., Jr.	Allan, John S.
Asher, Leonard M.	Allen, Browning E., Jr.
Bailey, Wilbur	Allin, John G.
Baker, Francis J.	Alter, Marvin S.
Barker, Donald E.	Anderson, John R.
Barry, Donald J.	Anderson, William R.
Bateman, J. Gordon	Arcadi, John A.
Beatty, Geneva	Attyah, Albert M.
Beebe, Edson D.	Bailey, William E.
Bennett, Ralph L.	Baker, Jack W.
Blackmun, Robert L.	Bales, Jackson
Bradford, Fred E.	Bishop, Edwin T.
Briney, Allan K.	Blong, Peter H.

Los Angeles County (continued)

Delegates	*Alternates*
Buehler, George S.	Bodner, Henry
Bullock, Lewis T.	Boyd, Harold
Carter, Robert V.	Bourne, John L., Jr.
Cass, Donald	Bowen, Gordon T.
Cherry, Ian S.	Boyle, Joseph F.
Cobb, Dudley M., Jr.	Brayton, Donald F.
Cole, Clifford B.	Brennan, John C.
Conti, James G.	Brown, Robert N.
Cook, Eugene Lee	Bryan, J. Elder, Jr.
Cook, Wells C.	Bullis, John A.
Cosgrove, Jay B.	Carlson, Carroll C.
Crane, Edward H., Jr.	Case, Walter G.
Crane, Jay J.	Cobley, George G.
Crowl, Verne C.	Collins, Mary Ellen
Crum, Jean F.	Compton, Richard B.
Dean, William I., Jr.	Crowe, Harold E.
Doehring, Paul C.	Cruse, Donald R.
Donath, Douglas	Demeter, Robert S.
Dorn, Robert M.	Donahue, D. W.
Doyle, James C.	Doyle, Patrick J.
Dummer, Jerome	Dresser, James T.
Earl, Donald H.	Ermini, Eugene D.
Eder, David	Faeth, William H.
Edwardes, Arthur F.	Failing, Joseph H.
Einstein, Robert A.	Fishel, Howard E.
Eisele, Harold E.	Frantz, Kieffer E.
Ekstrom, Carl F.	Fry, Robert P.
Evans, William D.	Garvin, Harold W.
Ewing, John Paul	Gelfand, Leo
Fitch, Donald R.	Glazier, McCleery
Foster, P. A.	Gold, Herbert
Fowler, John D.	Gondek, Frank R.
Frie, Robert James	Goodwin, William E.
Gettelman, Eugene	Gray, F. Lyle
Gill, Charles C.	Grimaud, Harry J.
Glyn-Davies, Alex	Gunther, Lewis
Golden, Robert F.	Hanchett, Richard B.
Gooel, Elmer F.	Hansen, Martin E.
Gummess, Glen H.	Hanten, Stephen J.
Haining, Robert B.	Hastings, T. Newlin
Halasey, Thomas	Hayes, Edward W., Jr.
Ham, Franklin F.	Hertzog, Francis C.
Hartley, Philip B.	Hilgert, Frederick L.
Haschka, August J., Jr.	Huffman, L. Dale
Haskell, M. M.	Ireland, Eugene L.
Heiser, Saul	Irwin, Leslie
Hill, Lowell R.	Isaacs, Julien H.
Hoffman, Eugene F.	Jackson, Donald W.
Hohl, Elizabeth Mason	Johns, Varner J., Jr.
Hohl, Mason	Johnstone, Marshall W.
Holloway, James W.	Kahn, Jack L.
Hood, Robert T.	Kalivas, George P.
Kantola, Bennett W.	Kamens, Leslie
Kempf, Paul Ruben, Jr.	Kashiwabara, John E.
Kidd, Thomas R.	Keislar, Henry D.
King, Don R.	Kelso, Raymond W., Jr.
Kirchner, Arthur A.	Kiddie, Thomas
Klingbeil, Jerome R.	Kirchner, Herbert J.
Knox, John F.	LaBriola, J. Harold
Knox, Stuart C.	Lazarus, Maurice L.
Kramer, Jack	Leary, John H.
Kristiansen, Clarence T.	Longmire, William P., Jr.
Kuntz, George S.	Mack, Edward G.
LaForge, William C.	Masters, John B.
Laughlin, T. Jackson	McDonald, John B.
Lloyd, O. Dale	McGirr, John I., Jr.
Ludwig, J. Lafe	Mercer, Marshall M.
Lynn, Theodore A.	Mietus, A. C.
Macdonald, Ian	Miller, Richard W.
Matlock, Richard A.	Montag, Leonard
Mauer, Edgar F.	Morgan, Frank M.
Mayne, John C.	Morrell, Charles F.
McCleery, Walter S.	Mudd, Seeley W., II
McDowell, Allyn J.	Murrieta, A. J., Jr.
McLennan, Robert M.	Neibling, Harold A.
McNeil, Robert J.	O'Neil, Mervin B.
McVann, Robert M.	Pabst, Paul J.
Michels, Arthur G.	Palmer, Jay J.
Miller, Richard D.	Paschall, Jack, Jr.
Milliken, Ralph M.	Peeke, George O.
Mooney, Herbert S.	Perkins, Roy F.
Morgan, Henry G.	Perry, John W.
Mumler, William C.	Plimpton, Edwin B.
Neale, Roderick M.	Pocock, Dean S.
Neuenschwander, Robert S.	Pomeranz, Alfred A.
Nixon, Richard W.	Poppen, Mayo J.
Oetting, Henry K.	Randle, Robert E.
O'Neill, J. Norman	Reeder, David H.
Paxton, Frank F.	Rolland, Ward M.
Petersen, Harold E.	Rosenbloom, Nathan
Pettit, Richard D.	Rothenberg, Sanford F.
Pheasant, Homer C.	Rubin, Henry J.
Pollack, John V.	Schade, Frank F.
Pulido, Venustiano	Schimmel, Irwin
Quinn, William F.	Scuderi, S. A.
Randall, Morton H.	Sheldon, David B.
Reyes, J. M. de los	Slater, James L.
Richards, Melvin R.	Smith, Eldon E.
Rogers, Frank A.	Smith, Thayer A.
Romeo, Matthew P.	Starr, Charles M.

Los Angeles County (continued)

Delegates	*Alternates*
Sampson, J. Philip	Steffen, Charles G.
Schlesinger, Martin R.	Stephens, John S.
Schroeder, Ralph L.	Stout, Carlyle F.
Senseman, William R.	Swan, James E.
Shaw, Gerald W.	Thom, John G.
Sleeter, John W. H.	Thompson, Wm. Benbow, Jr.
Smart, Reginald H.	Thurber, Packard, Jr.
Smith, Earl H.	Treible, Dale P.
Smitter, Robert C.	Turbow, Arthur O.
Stein, Justin J.	Turrill, Fred L.
Stirrett, R. L.	Tyler, George C.
Stout, Joseph H., Jr.	Vanley, Harry T.
Stragnell, Robert	Van Riesen, Milton H.
Strand, Sherman O.	Vogel, Philip J.
Taw, Richard L.	Voigt, Philip F.
Tyroler, Frederic N.	Walter, Robert C.
Van Dyke, H. Milton	Weiss, Allen H.
Wadsworth, E. E., Jr.	Westerbeck, Charles W.
Wallace, Keith H.	Westphal, Edward A.
Ward, George H.	Wilcox, John C.
Watson, Robert L., Jr.	Wood, Robert C.
Weber, Robert A.	Zaro, John A., Jr.
Weekes, Leroy R.	
Wilkins, Harold E.	
Witherbee, Harold R.	
Wood, Howard A.	
Woodruff, John H., Jr.	
Wright, Wesley M.	
Wunderlich, Edwin E.	

Madera County (2)

Daggett, Gilbert G.	Rowe, R. B.
Solberg, L. A.	Weinberger, Herbert

Marin County (4)

Degenhardt, Ira	Hurlbut, J. Lyman
Hedin, Roger W.	McGee, John
Manwaring, John H.	Mills, Robert L.
Scheil, Robert F.	West, Robert C.

Mendocino-Lake County (2)

Roberson, B. B.	Curtis, Hugh P.
Smalley, Robert B.	Ivers, Tom

Merced County (2)

McDowell, B. E.	Fountain, William E.
Udall, Addison R.	Holm, Richard P.

Monterey County (4)

Clark, Howard E.	Fassett, James R.
Englehorn, T. D.	Hull, Osman H.
Mitchell, Allen C.	Turner, Joseph E.
Moore, Chester G.	Turner, Seymour

Napa County (2)

Brignoli, Walter H.	Ashley, Robert C.
Rose, Edgar Kash	Hemphill, Arthur C.

Orange County (13)

Altman, Richard F.	Ball, Dexter T.
Donaldson, A. Norton	Ball, Robert E.
Galbraith, Harold F.	Eastman, Henry V.
Gendel, Samuel	Friend, William K.
Hanigan, Thomas E.	Gerrie, Wallace A.
Hunt, Frederick T.	Kornblum, William A.
Paul, Carl J.	Lenahan, William E.
Pettis, Emmett M.	Lowe, Waynard W.
Plumb, Hugh J.	Mackey, Francis G.
Preston, Richard	McAllister, Cloyd N.
Price, J. B.	Mosier, Laurance A.
Specht, Oswald S.	O'Brien, Frank T.
Whittaker, L. F.	Rice, Maurice M.

Placer-Nevada County (2)

Dubin, Nathan	Bailey, Nicholas
Joye, K. M.	Scheideman, Oliver

Riverside County (5)

Abbott, Donald	Budenz, Charles
Fitzmorris, Andrew	Ivanoff, John
Garcia, Robert E.	Payton, Robert
Peterson, John R.	Sheehy, John J.
Stone, H. H.	Stone, Vean M.

Sacramento County (9)

Berman, A. E.	Airola, Virgil R.
Dozier, Dave F.	Baker, John M.
Grayson, Charles E.	Berg, John
Horn, Carl E.	Connors, John P.
Janvier, Joel T.	Cook, Orrin S.
Martin, James W.	Demorest, Byron H.
Pope, Glenn A.	Farley, James O.
Schroeder, Frederick A.	Johnson, Kenneth M.
Yant, James H.	Range, Robert L.

Delegates	*Alternates*
San Benito County (2)	
Moore, Ernest	Haruff, John J.
Taylor, Kent	Quinn, Robert D.
San Bernardino County (7)	
Crutcher, Luke F.	Cover, William L.
Halburg, Clarence T.	Gattas, Fred A.
Marsh, Norman E.	Hendrickson, Merlin A.
Melone, Frank C.	Hoag, L. G.
Miano, Ben D. A.	Ogden, Wendell L.
Sprague, Charles P.	Smith, George William
Varden, Arthur E.	Sterling, Allen F.
San Diego County (19)	
Carpenter, Walter F.	Allen, Frederic R.
Fairchild, L. H.	Averill, Roy S.
Feeney, Michael J.	Bethard, William F.
Hall, Winston C.	Brumbaugh, Simon C., Jr.
Hanna, Curtis M.	Heywood, Charles W.
Hippen, Robert L.	Kirtland, Howard B., Jr.
Hokr, William K.	Merdinger, Walter F.
Irwin, James B.	Messenger, Harold M.
Isenhour, Roger C.	Moore, E. Vincent, Jr.
King, Ralph M.	Moore, Stanley A.
Levy, Edward I.	Peabody, Homer D., Jr.
Newman, Willard H.	Peck, J. Haddon A., Jr.
Phalen, James R.	Peck, Samuel G.
Robinson, Frank H.	Plumb, Robert T.
Rumsey, John M.	Powell, E. R.
Skeoch, Gordon D.	Pruett, Charles E.
Tancredi, Chester	Rumsey, Eugene W.
Telford, Joseph W.	Tabor, George L., Jr.
Youel, Milo A.	Wells, John J.
San Francisco County (35)	
Baer, Charlotte C.	Aird, Robert B.
Beckh, Walter	Antipa, August
Bender, William T.	Bates, O. George
Burnham, DeWitt K.	Bricca, C. R., Jr.
Clark, Albert G.	Butler, Edmond D.
Combs, Robert C.	Campbell, Douglas G.
Cox, Francis J.	Cappeller, William S.
Erskine, John M.	Castro, Ames J.
Fenlon, Roberta	Cherney, Leonid
Fullenlove, Tom M.	Clark, W. Dayton
Galgiani, John	Cook, Robert E.
Gallagher, Donald M.	Cowan, John F.
Garland, L. Henry	Feldman, Sanford
Gibbons, Henry, III	Foster, Sidney E.
Herzog, George K., Jr.	Fraser, Alexander
Howard, Frederick S.	Furlong, Joseph J.
Hurwitz, Samuel	Gobar, Robert F.
Leach, Charles W.	Greco, Vincent H.
Lebo, Charles	Hartwig, Arthur R.
Musser, Don C.	Henry, Margaret
Rixford, Emmet L.	Herrod, Chester
Robinson, Saul J.	Hopp, Eugene S.
Rochex, Francis	Jacobs, Alvin H.
Saunders, John B. de C. M.	Kushner, Joseph
Schaupp, John B.	McGregor, Mar W.
Schaupp, Karl L., Jr.	Newsom, William A.
Sirbu, Abraham B.	O'Gara, Louis A.
Torassa, George L., Jr.	Palmer, Richard
Watts, Malcolm S. M.	Pillsbury, Philip
Wayburn, Edgar	Salomon, Maurice S.
Webb, Eugene M.	Samilson, Robert
Weyrauch, Helen B.	Schaefer, Jane
Willett, Forrest M.	Thompson, Mary C.
Williams, A. Justin	Trauner, Lawrence M.
Young, Bradford	Webb, Gilbert A.
San Joaquin County (5)	
Armanino, Louis P.	Blinn, John F., Jr.
Benn, James J.	Lee, Dora Ames
Harrington, Donald C.	Nickols, Bruce
Mayo, John F.	Salter, Robert
McNally, John	Williams, George
San Luis Obispo County (2)	
Hardham, John	Scow, James
Middleton, Joseph C.	Tedone, L. M.
San Mateo County (10)	
Brown, Henry A.	Aycinena, Juan
Findley, John W.	Healy, Francis A.
Fox, Norman C.	James, Robert E.
Hart, Ward L.	Johnson, Harold P., Jr.
Hills, Oscar W.	Larsen, William G.
Holmes, Robert O.	Lindsey, Howard W.
Novak, Frank J.	Ray, Hartzell H.
Saidy, John T.	Richanbach, Henry S.
Smith, Harry F.	Rossiter, Stanford B.
Thompson, William H.	Willey, Roger W.

Delegates	*Alternates*
Santa Barbara County (5)	
Hill, T. K.	Dereniwski, Edward
Miles, Harold	Heiges, Laurence, Jr.
Olsen, Arthur	McGinnis, Robert
Owens, Daniel	McNiece, Kenneth
Riparetti, P. Paul	Williams, Robert
Santa Clara County (16)	
Besson, Gerald	Bacci, Orval J.
Boice, Clyde	Cramer, Harold
Clark, William H.	Giansiracusa, Frank
Dennis, Robert	Ibsen, Maxwell
Foster, Thomas N.	Jennison, M. Harry
Fox, Leon P.	Johnson, Bert
Houck, George H.	Kelly, Allen
Liston, Edward	Kenter, Thomas P.
Mitchell, Sidney	LaVeque, Edgar G.
Morton, Paul V.	Meyer, Robert W.
Olson, Raymond N.	Peck, Clemmer M.
Rugtiv, George	Randle, Harold Y.
Scarborough, C. Gerald	Schilla, Frederick
Silver, Emmanuel	Skillicorn, Stanley A.
Snyder, J. Frederic	Wheat, Richard
Zobel, Jerome F.	Wilbur, Richard
Santa Cruz County (2)	
Newhall, Luther	Bell, Taine
Spencer, James A.	Morris, John W.
Shasta-Trinity County (2)	
Martin, George A.	Nilssen, William, Jr.
Miller, Charles D.	Polka, Michael
Siskiyou County (2)	
McGiff, John J.	Reynolds, J. W.
Vidricksen, H. L.	Thompson, Victor J.
Solano County (2)	
Garrett, Robert L.	Joseph, Herbert L.
Jones, F. Burton	Schmutz, Melvin A.
Sonoma County (3)	
Butler, Robert H.	Close, Myron B.
Newman, William J.	Panting, Norman
Sharrocks, Horace F.	Salmon, Everett L.
Stanislaus County (3)	
Hatch, Francis N.	Deyoe, George W.
New, David J.	Pyles, Gordon
Purvis, Robert	Ryan, William H.
Tehama County (2)	
Wolfe, L. E.	Wilson, E. R.
Wood, O. T.	
Tulare County (2)	
Feldmayer, James E.	Osgood, Lyle E.
Lavers, George D.	Havard, Robert
Ventura County (3)	
Helbling, Franklin K.	Hair, C. M.
Huff, W. Cloyce	Maguire, J. F.
Moore, J. W.	Nelson, James H.
Yolo County (2)	
McKinney, Charles L.	Kennedy, James
Young, Corbin	Robinson, William
Yuba-Sutter-Colusa County (2)	
Heckman, John R.	Williams, James D.
Wallace, Robert	

PAST PRESIDENTS (22)

Ewer, Edward N.	1925
Harris, Junius B.	1931
Reinle, George G.	1933
Peers, Robert A.	1935
Wilson, Harry H.	1940
Molony, William R., Sr.	1942
Schaupp, Karl L.	1943
Goin, Lowell S.	1944
*McClendon, Sam J.	1946
Cline, John W.	1947
Askey, E. Vincent	1948
Kneeshaw, R. Stanley	1949
Cass, Donald	1950
MacLean, H. Gordon	1951
Alesen, Lewis A.	1952
Green, John W.	1953
Morrison, Arlo A.	1954
Shipman, Sidney J.	1955
Charnock, Donald A.	1956
MacDonald, Frank A.	1957
West, Francis E.	1958
Reynolds, T. Eric	1959
Foster, Paul D.	1960

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*Deceased.

House of Delegates Agenda

1962 Annual Session

Peacock Court and Room of the Dons
Mark Hopkins Hotel

Speaker	James C. Doyle, Beverly Hills
Vice-Speaker	Ivan C. Heron, San Francisco
Secretary	Matthew N. Hosmer, San Francisco

FIRST MEETING

Saturday, April 14, at 7:00 p.m.

Order of Business

1. Call to order.
2. Report of Committee on Credentials, and Organization of the House of Delegates.
3. Roll call.
4. Announcement and approval of Reference Committees.
    (a) Committee on Credentials. (Delegates must register with the Committee.)
    (b) Reference Committee on the Report of Officers, the Council, the Commissions, and Standing and Special Committees. (Reference Committee No. 1.)
    (c) Reference Committee on Finance, to review the reports of the Secretary and the Executive Secretary and to study and make recommendations to the House of Delegates on the budget submitted by the Council and the amount of dues for the ensuing year. (Reference Committee No. 2.)
    (d) Reference Committee on Resolutions and New and Miscellaneous Business. (Reference Committee No. 3.)
    (e) Reference Committee (No. 3A) on Resolutions and New and Miscellaneous Business.
    (f) Reference Committee on Amendments to the Constitution and By-Laws. (Reference Committee No. 4.)
    (g) Reference Committee on C.P.S. Business.
5. Address by President of the Woman's Auxiliary to the C.M.A.—Mrs. Lawrence R. Custer, San Francisco.
6. Address by President—Presentation of 50-Year Awards.
7. Miscellaneous announcements by the Speaker. (Stenographic service to secure copies of resolutions, etc.)
8. Report of the President—Warren L. Bostick.
9. Report of the President-elect—Omer W. Wheeler.
10. Report of the Speaker of the House of Delegates—James C. Doyle.
11. Report of the Vice-Speaker of the House of Delegates—Ivan C. Heron.
12. Report of the Trustees of the California Medical Association—Warren L. Bostick.
13. Report of Physicians' Benevolence Fund, Inc.—Warren L. Bostick.
14. Report of the Secretary—Matthew N. Hosmer.
15. Report of the Editor—Dwight L. Wilbur.
16. Report of the Executive Secretary—John Hunton.
17. Report of Legal Counsel—Peart, Baraty and Hassard.
18. Report of the Committee for Emergency Action—Warren L. Bostick.
19. Report of the Council—Samuel R. Sherman, Chairman.
20. Report of C.P.S. Board of Trustees—John G. Morrison, Chairman, Board of Trustees.
21. Reports of Commissions.
    (a) Commission on Cancer—Burt L. Davis, Palo Alto.
    (b) Commission on Community Health Services—James C. MacLaggan, San Diego.
    (c) Commission on Medical Education—Albert C. Daniels, San Francisco.
    (d) Commission on Medical Services—Donald C. Harrington, Stockton.
    (e) Commission on Professional Welfare—Arthur A. Kirchner, Los Angeles.
    (f) Commission on Public Agencies—Omer W. Wheeler, Riverside.
    (g) Commission on Public Policy—Dan O. Kilroy, Sacramento.
        (1) Committee on Legislation — Dan O. Kilroy, Sacramento.
        (2) Committee on Public Relations—Malcolm S. M. Watts, San Francisco.
            (a) Sub-Committee on Radio, Television and Motion Pictures—John B. Schaupp, San Francisco.
    (h) Judicial Commission—Donald A. Charnock, Los Angeles.

22. Reports of Other Committees.
    - (a) Bureau of Research and Planning—Gerald W. Shaw, Santa Monica.
    - (b) Finance Committee—Ralph C. Teall, Sacramento.
    - (c) Committee on History and Obituaries—J. Marion Read, San Francisco.
    - (d) Medical Executives Conference—William T. Nute, San Diego.
    - (e) Delegates to the A.M.A.—Dwight L. Wilbur, San Francisco.
    - (f) Liaison Committee to C.P.S.—Donald D. Lum, Alameda.
    - (g) Liaison Committee to the State Bar of California—Francis E. West, San Diego.
23. Old and Unfinished Business.
24. New Business.

SECOND MEETING

Tuesday, April 17, at 4:00 p.m.

(To be recessed and reconvened at 9:30 a.m., Wednesday, April 18)

Order of Business

1. Call to order.
2. Supplemental report of Credentials Committee.
3. Roll call.
4. Secretary's announcement of Council's selection of time and place for the 1963 annual session.
5. Election of officers:
    - (a) President-elect.
    - (b) Speaker.
    - (c) Vice-speaker.
    - (d) Councilors (three-year terms).
        - (1) Third District—Office No. 1—Malcolm C. Todd, Long Beach (term expiring). *Third District*—Los Angeles County.
        - (2) Third District—Office No. 4—Arthur A. Kirchner, Los Angeles (term expiring). *Third District*—Los Angeles County.
        - (3) Third District—Office No. 7—Wilbur G. Rogers, Glendale (term expiring). *Third District*—Los Angeles County.
        - (4) Sixth District—Office No. 2—Albert G. Miller, San Mateo (term expiring). *Sixth District*—Monterey, San Benito, San Mateo, Santa Clara and Santa Cruz counties.
        - (5) Tenth District—Ralph C. Teall (term expiring). *Tenth District*—Alpine, Amador, Butte, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Yolo and Yuba counties.
    - (e) Delegates to the American Medical Association: Delegates and Alternates to the American Medical Association are elected for terms of two calendar years. The Delegates and Alternates to be elected at this meeting will serve for two calendar years starting January 1, 1963.
        - (1) Leopold H. Fraser, Richmond (term expiring).
        - (2) Arthur A. Kirchner, Los Angeles (term expiring).
        - (3) Dwight L. Wilbur, San Francisco (term expiring).
        - (4) J. Norman O'Neill, Los Angeles (term expiring).
        - (5) J. Lafe Ludwig, Los Angeles (term expiring).
        - (6) Burt L. Davis, Palo Alto (term expiring).
        - (7) Arlo A. Morrison, Ventura (term expiring).
        - (8) James E. Feldmayer, Exeter (term expiring).
        - (9) H. Milton Van Dyke, Long Beach (term expiring).
    - (f) Alternates to the American Medical Association. All terms expiring. All offices for two-year terms starting January 1, 1963.
        - (1) Hartzell H. Ray, San Mateo (alternate to Leopold H. Fraser).
        - (2) Dudley M. Cobb, Los Angeles (alternate to Arthur A. Kirchner).
        - (3) Francis J. Cox, San Francisco (alternate to Dwight L. Wilbur).
        - (4) William F. Quinn, Los Angeles (alternate to J. Norman O'Neill).
        - (5) Samuel R. Sherman, San Francisco (alternate to J. Lafe Ludwig).
        - (6) Leon P. Fox, San Jose (alternate to Burt L. Davis).
        - (7) Donald D. Lum, Alameda (alternate to Arlo A. Morrison).
        - (8) Charles Grayson, Sacramento (alternate to James E. Feldmayer).
        - (9) Omer W. Wheeler, Riverside (alternate to H. Milton Van Dyke).
6. Election of C.P.S. Trustees (three-year terms): Report of C.M.A. Council as Nominating Committee. Incumbent:
    - Bert Halter, San Francisco (not eligible for reelection).
7. Announcement by Secretary. Council's nominations of members of Commissions and Committees (for approval by the House of Delegates).
8. Reports of Reference Committees:
    - (a) Reports of Reference Committee No. 1 on Reports of Officers, the Council, Commissions and Standing and Special Committees.

(b) Report of Reference Committee No. 2 on Reports of the Secretary, the Executive Secretary, and the budget and dues.

(c) Report of Reference Committee No. 3 on Resolutions and New and Miscellaneous Business.

(d) Report of Reference Committee No. 3A on Resolutions and New and Miscellaneous Business.

(e) Report of Reference Committee No. 4 on Amendments to the Constitution and By-Laws.

(f) Report of Reference Committee on C.P.S. Business.

9. Unfinished Business.
10. New Business.
11. Presentation of Officers:
    President.
    President-elect.
    Speaker.
    Vice-speaker.
12. Presentation of certificate to retiring president Warren L. Bostick.
13. Approval of minutes. (Committee to edit.)
14. Adjournment.

James C. Doyle, *Speaker*
Matthew N. Hosmer, *Secretary*

PRESIDENTS' DINNER DANCE

SUNDAY, APRIL 15

Venetian Room, Fairmont Hotel, 8:00 p.m.

Formal dress optional

Tickets will be on sale in the Main Lobby

EMERGENCY CALLS AND MESSAGES

Convention Emergency Call Number: YUkon 6-2896 — 9:00 a.m. to 5:00 p.m.

(Provided through the courtesy of the Pacific Telephone and Telegraph Company)

Registration Desk, Lobby of Grand Ballroom—Open 9:00 a.m. to 5:00 p.m.—The Association will *ATTEMPT* to transmit messages to the individual physician. Each physician must notify his own office of the exact times and meetings he plans to attend, and the convention number.

AMENDMENTS TO CONSTITUTION

Amendments to the Constitution of the California Medical Association are required to lie on the table for one year before being voted upon. Seven proposed amendments to the Constitution were introduced in the 1961 House of Delegates. Under the terms of the Constitution, these were subject to review by the Reference Committee in the 1961 House of Delegates and will also be reviewed by Reference Committee No. 4 in the 1962 House before being voted upon in that session.

In some instances the Reference Committee suggested that proposed amendments to the By-Laws, which need lie on the table only twenty-four hours, also be deferred until 1962 because of their association with constitutional amendments on the same subject. In the section on By-Law Amendments following this section, such deferral will be noted.

The following Amendments to the Constitution were offered in 1961, all of them placed on the table for definitive action in 1962.

* * *

CONSTITUTIONAL AMENDMENT No. 1

Author: Samuel R. Sherman.
Representing: The Council.

Resolved: That Article I, Section 5, of the Constitution of the California Medical Association shall be amended, by adding a new sentence at the end of the present section reading as follows:

"Notwithstanding the foregoing, one charter may be issued to a component society that is not limited as to geographical area or which overlaps the area covered by one or more existing component societies.";

and be it further

Resolved: That Article II, Part B, Section 10, be amended by deleting the word "ten" in the first sentence of the section and substituting therefor the word "eleven" and by adding at the foot of the section the following language: "District No. 11, comprising such areas as may be encompassed by a component society chartered in accordance with the terms of Article I, Section 5, of this Constitution, relating to the issuance of charters in excess of one in any county."

* * *

CONSTITUTIONAL AMENDMENT No. 2

Author: Samuel R. Sherman.
Representing: The Council.

Resolved: That Article III, Part B, Section 10, of the Constitution of the C.M.A. shall be amended by adding the following sentence as a separate subparagraph of said section:

"District No. 11, consisting of any society which is not limited as to geographical area, or the area of which overlaps the area covered by one or more existing component societies; such society and its members shall not be considered to be members of any other councilor district."

* * *

CONSTITUTIONAL AMENDMENT No. 3

Author: James MacLaggan.
Representing: San Diego County.

Resolved: That Article III, Section 2, of the Constitution, which now reads:

"As the By-Laws shall provide, each component society shall be entitled to proportionate representation in the House of Delegates but with a minimum of two delegates."

is hereby amended to read as follows:

"As the By-Laws shall provide, each component society shall be entitled to proportionate representation in the House of Delegates but with a minimum of one delegate."

* * *

CONSTITUTIONAL AMENDMENT No. 4

Author: Los Angeles delegation.

WHEREAS, the alternate delegates are duly elected representatives of the physicians in their districts; and

WHEREAS, the wishes of the physicians in a district will be best represented by a vote of all of their elected representatives; now, therefore, be it

Resolved: That the Constitution of the California Medical Association be amended as follows:*

ARTICLE III—Government of the Association
Part A—House of Delegates

Section 1—Composition. (b) *Alternate Delegates elected by members of component societies and seated in the place of absent delegates.* Present (b), (c) and (d) to be changed to (c), (d) and (e).

Section 2—Representation. As the By-Laws shall provide, each component society shall be entitled to proportionate representation in the House of Delegates but with a minimum of two delegates *or Alternate Delegates.*

Section 3—(Alternates) *Alternate Delegates.* (Alternates) *Alternate Delegates* shall be elected, as specified in the By-Laws, in the same manner as delegates are elected. One Alternate *Delegate* shall be seated in place of each delegate absent or disqualified for failure to attend meetings or other cause.

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*Language deleted shown in parentheses; new language shown in italics.

Section 4—Terms of Delegates and (Alternates) *Alternate Delegates.* Delegates and (alternates) *Alternate Delegates* shall serve for two or three years as each component society may determine. One-half or one-third, as the case may be, of the allowed number shall be elected each year.

Section 5—Quorum. A majority of the authorized number of delegates *or alternate delegates seated in their places* shall constitute a quorum.

Section 11—Election of Councilors. District councilors shall be elected by vote of the delegates *and Alternate Delegates* from each district in the manner and at the time specified in the by-laws; provided, however, that at the first meeting of the House of Delegates after a district councilor has been selected, his name shall be submitted to the House by the Chairman of the Delegation from the district, and (1) if there is no challenge by any delegate or *Alternate Delegate seated in place of a delegate* then the speaker shall declare his election completed, and (2) if any delegate or *Alternate Delegate seated in place of a delegate* shall challenge the election on any ground, including fitness of the nominee of the district to serve as a district councilor, the questions presented by the challenge shall be submitted to a Qualifications Committee consisting of the president, president-elect and one delegate, appointed by the speaker, from the councilor district involved. The Qualifications Committee shall consider all grounds upon which the nominee is challenged and report back to the House. If the committee reports in favor of confirming the nominee's election, the speaker shall declare him elected. If the committee reports against confirming the nominee's election, a three-fourths affirmative vote shall be necessary to sustain the report of the committee, in which event the nominee shall be ineligible to serve as the district councilor and the delegates *and Alternate Delegates* from the district shall immediately proceed to the selection of another nominee for the vacant office. If an adverse report of the Qualifications Committee is not sustained then the nominee shall be declared elected by the speaker.

* * *

CONSTITUTIONAL AMENDMENT No. 5

Author: Alameda-Contra Costa delegation.

WHEREAS, under the present Constitution of the California Medical Association, Associate Members are not eligible for leave of absence for either illness or postgraduate study; and

WHEREAS, the financial burden is as great on an Associate Member as on an Active Member under these circumstances; now, therefore, be it

Resolved: That Article IV, Section 3 of the C.M.A. Constitution be amended to read: "The Council, on recommendation of a component society, may grant leaves of absence to active *and associate members* who are seriously ill, etc. . . ."

* * *

CONSTITUTIONAL AMENDMENT No. 6

Author: Jerome Klingbeil.

Representing: Los Angeles County (Long Beach).

WHEREAS, a more even and democratic balance must prevail in the California Medical Association and that no county society should have the potential to exceed 50 per cent of the state association membership; and

WHEREAS, when a county medical society encompasses such territory and has a membership larger than a great majority of state medical associations, they cannot properly represent or govern their highly dispersed area groups with widely divergent economic, social, and public relations problems; and

WHEREAS, in such large unwieldy societies effective communication between the governing officers and the members represented is often inadequate and occasionally nonexistent; and

WHEREAS, the strength of organized medicine is most effective when broad participation of the medical profession at a local level is implemented; and

WHEREAS, in large county societies inequities tend to arise in outlying component districts in regard to insurance, legal matters, fees and available facilities; and

WHEREAS, in such large county societies, problems of the peripheral area groups regardless of acuteness or degree of local need often must be ignored or deferred to the routine mechanics of day-to-day business application; and

WHEREAS, precedence for district autonomy within a geographic county area has been established elsewhere; and

WHEREAS, there is no mechanism existing in the present Constitution and By-Laws of the C.M.A. to allow large district components of county societies to become direct component parts of the C.M.A.; now, therefore, be it

Resolved: That the California Medical Association initiate changes in its Constitution and By-Laws which will permit any established district of a county society to withdraw from that county society and become a direct component part of the California Medical Association; and be it further

Resolved: That the California Medical Association amend its Constitution and By-Laws as follows:

A. ARTICLE I, Section 4—Definition of Component Societies

Component societies include all county medical societies (which may cover one or more counties) or any established component district of at least 300 members of a county society which has exercised option to withdraw from that county society and set up a separate component society, heretofore or hereafter, chartered by this Association.

B. ARTICLE I, SECTION 5—Component Society Charters

Charters to component societies may be granted and revoked as hereinafter prescribed, subject to the limitation that only one charter may be outstanding at any one time in any county except where an established component district of at least 300 members of a county society has elected to be a separate component society.

C. ARTICLE III, SECTION 7(a)—Issuance and Revocation of Charters

The House of Delegates shall issue charters to medical societies of any county, any component society of at least 300 members which has exercised its option to become autonomous or to any group of counties deemed eligible which have made proper application therefor.

* * *

CONSTITUTIONAL AMENDMENT No. 7

Author: Ian Macdonald.
Representing: Los Angeles County.

Resolved: That Article III, Part A, Section 3 of the Constitution of the California Medical Association shall be amended to read as follows:

"Section 3—Alternate Delegates. Alternate delegates shall be elected as specified in the By-Laws in the same manner as delegates are elected; one alternate delegate shall be elected for each two delegates of a component society, and alternate delegates shall be seated in place of any delegate absent, or disqualified for failure to attend meetings, or other cause."

BY-LAW AMENDMENTS

Several proposed amendments to the By-Laws introduced in the 1961 House of Delegates were, on recommendation of the Reference Committee and vote of the House, deferred for consideration until 1962. These are shown here as introduced in 1961 and as identified, numerically, in the 1961 meeting.

The Reference Committee also suggested that a special committee be established, to review all such deferred amendments. This committee, which has been established by the Council, will review all amendments to the Constitution and the By-Laws which relate to the structure of the Association. Where a By-Law amendment has been referred to this special committee, this referral is noted at the foot of the amendment.

Shown below are all amendments to the By-Laws introduced in 1961 and deferred for action in 1962.

* * *

BY-LAW AMENDMENT No. 1

Author: Samuel R. Sherman.
Representing: The Council.

Resolved: That Chapter II, Section 3(b) of the By-Laws of the California Medical Association shall be amended by inserting after the second sentence of said Section 3(b) a new sentence to read as follows:

"A physician and surgeon licensed by the State Board of Osteopathic Examiners on or before September 30, 1962, who holds a degree of Doctor of Medicine issued to him by the College of Osteopathic Physicians and Surgeons (or its successor), and whose license to practice medicine and surgery is unrevoked and unsuspended, is eligible for election to active membership in a component society. However, in the event that a charter is outstanding to a state-wide component society, none of such persons shall be permitted to join any component society other than the state-wide component society, without the express consent of such state-wide society."

ACTION: Deferred for action until 1962 in conjunction with Constitutional Amendments No. 1 and No. 2.

* * *

BY-LAW AMENDMENT No. 6

Author: James MacLaggan.
Representing: San Diego County.

Resolved: That the membership of the House of Delegates of the California Medical Association be computed on the basis of one Delegate for each component society plus one Delegate for each 75 active members or major fraction thereof and that an automatic review of the size of the House of Delegates shall be made every six years by the Council of the California Medical Association and that to accomplish this, Chapter V, Section 2, of the By-Laws which now reads:

"Commencing with the 1952 regular session of the House of Delegates, each component society shall be entitled to one delegate for each fifty (50) active members or major fraction thereof, according to its membership as of the first day of September of the preceding year; providing, however, that each component society shall be entitled to a minimum of two delegates."

is hereby amended to read as follows:

"Commencing with the 1963 regular session of the House of Delegates, each component society shall be entitled to one delegate plus one additional delegate for each 75 active members or major fraction thereof, according to its membership as of the first day of September of the preceding year; and that every six years subsequent to 1963 the Council of the California Medical Association shall automatically review the size of the House of Delegates and make appropriate recommendations."

ACTION: Referred to special committee for study, together with Constitutional Amendment No. 3 and By-Law Amendment No. 15.

* * *

BY-LAW AMENDMENT No. 10

Author: Los Angeles delegation.

Whereas, all the delegates do not attend the caucus of the district delegation; and

Whereas, the alternate delegates are expected to be oriented and prepared to vote on all matters coming before the House of Delegates; and

Whereas, the interest of the alternate delegates will be greatly stimulated by being allowed to actively participate in the decisions of the district delegation; and

Whereas, such increased interest on the part of the alternate delegates will be advantageous to all physicians in California; now, therefore, be it

Resolved: That the By-Laws of the California Medical Association be amended as follows:*

Chapter V—House of Delegates

Section 1—Secretaries of Component Societies to Furnish Lists of Delegates and (Alternates) *Alternate Delegates.* Each component society shall elect the number of delegates and (alternates) *alternate delegates* to which the component society is entitled. At least sixty days prior to the next scheduled session the Secretary of each component society shall forward to the secretary of the Association, on forms provided by the Association, the names and addresses of these delegates and (alternates) *alternate delegates,* and shall certify thereon the terms of service of each individual.

Section 2—Representation. Commencing with the 1952 regular session of the House of Delegates, each component society shall be entitled to one delegate *or alternate delegate* for each fifty (50) active members or major fraction thereof, according to its membership as of the first day of September of the preceding year; provided, however, that each component society shall be entitled to a minimum of two delegates *or alternate delegates.*

Section 3—Limitations on Seating of Delegates *and Alternate Delegates.* Only duly elected delegates or (alternates) *alternate delegates* may be seated at any session of the House of Delegates, unless the secretary of the Association has been given due notice of substitution at least fifteen (15) days in advance of the session.

Section 4—Disqualification of Delegates or (Alternates) *Alternate Delegates* for Absence From a Session. Any delegate absent without good cause from two or more consecutive meetings of the House of Delegates, and who has failed to give fifteen days' notice to the secretary of the Association of his inability to be present, shall thereupon be disqualified as a delegate and, in addition, ineligible for reelection as a delegate or (alternate) *alternate delegate* for three years immediately succeeding the expiration of his term; except that the Committee on Credentials may excuse absence on presentation of good cause therefor.

Section 5—Notification of Delegates *and Alternate Delegates.* The secretary of each component society promptly shall notify in writing each delegate and alternate *delegate* immediately after his election to such office, and shall expressly direct each delegate's and (alternate's) *alternate delegate's* attendance to the provisions of Section 4 above.

Section 6—Qualifications of Delegates and (Alternates) *Alternate Delegates.* At least three (3) years' active membership in good standing in the component society immediately preceding election shall be required for election as delegate or alternate *delegate.*

Section 10—Duties of Credentials Committee. The secretary of the Association shall supply the Committee on Credentials with the necessary information concerning the membership of the House of Delegates.

The secretary shall give this committee a list of component societies, showing the total membership as of September 1 of the preceding year. This committee shall ask each delegate and alternate *delegate* to present his written credentials, but shall accept the official written list submitted by the secretary of any component society; provided that such written list be sent to the secretary of the Association at least fifteen days before the beginning of the annual session.

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*Language deleted shown in parentheses; new language shown in italics.

The committee shall make a written report to the House of Delegates of the delegates and (alternates) *alternate delegates* entitled to membership therein.

Section 12—Loyalty. The Committee on Credentials shall require each delegate and alternate *delegate* who desires to be seated as a member of the House of Delegates, to subscribe to the oath or affirmation in the form required for officers under Section 3 of Chapter XIII. In the event of refusal to subscribe to such oath, the Credentials Committee may at its discretion refuse to include such person in its written report to the House of Delegates designating the delegates and (alternates) *alternate delegates* entitled to membership therein. Any person refused a seat by action of the Credentials Committee shall have the right to appeal to the House and by majority vote the House may overrule the Credentials Committee and seat such person as a delegate.

CHAPTER VIII—Election of Officers: Terms

Section 6—Election of District Councilors in Districts Having One Councilor. At least twenty-four hours prior to the second meeting at each annual session of the House of Delegates the delegates *and alternate delegates* from those districts in which councilor vacancies are about to occur shall separately meet, and in each district the delegates *and alternate delegates* shall elect a chairman and a secretary. At such caucus the delegates *and alternate delegates* in each district shall by nomination, secret ballot and majority vote of the delegates *and alternate delegates* present elect a district councilor from such district to serve for the ensuing term. The chairman of the district delegation shall then report at the second meeting of the House of Delegates the results of the election, and when such report is made the member elected shall thereupon assume office as a district councilor. The time and place of the caucus of each district delegation shall, in the absence of unanimous written consent by the delegates *and alternate delegates* from the district fixing time and place, be fixed by the speaker and announced at the first meeting of the House of Delegates at each annual session. In the event that at any district caucus no person receives a majority vote for district councilor after repeated ballots, the chairman of the caucus shall report such fact at the second meeting of the House of Delegates and shall also report the names of all nominees submitted to the caucus, whereupon the House of Delegates shall proceed to elect from such nominees the district councilor from such district. *The alternate delegates shall have a vote on all actions taken by the caucus meeting of the district delegation.*

Section 6.5—Election of District Councilors in Districts Having More Than One Councilor. Immediately on the adoption of this section, and in succeeding years at least twenty-four hours prior to the second meeting at each annual session of the House of Delegates, the delegates *and alternate delegates* from those districts in which more than one councilor vacancy exists or is about to occur shall separately meet and in each such district the delegates *and alternate delegates* shall elect a chairman and a secretary. *The alternate delegates shall have a vote on all actions taken by the caucus or meeting of the district delegation.*

At the first such caucus in each such district, the aggregate number of vacancies existing shall be divided into Offices No. 1, No. 2 et seq. with Offices No. 1, 4 and succeeding increments of three carrying an initial term of one year and thereafter terms of three years; with Offices Nos. 2, 5 and succeeding increments of three carrying initial terms of two years and thereafter terms of three years; and with Offices Nos. 3, 6 and succeeding increments of three carrying initial terms of three years and thereafter terms of three years. Where new offices are created under the terms of Article III, Part B, Section 9(a) of the Constitution, each such new office shall be numbered serially with those already existing and shall carry an initial term extending to the same date as has previously been established for offices in the same numerical sequence, thereafter a term of three years.

Nominations shall then be received for each individually numbered office in which a vacancy exists, and in each instance where there is more than one nomination election shall be by secret ballot and majority vote of the delegates *and alternate delegates* present and voting. The chairman of the district delegation shall then report to the House of Delegates the results of the election, and when such report is made, the members elected shall thereupon assume office as district councilors, subject to the provisions of the Constitution and By-Laws.

At the second and succeeding caucuses the delegates *and alternate delegates* in each such district shall by nomination, secret ballot and majority vote of the delegates *and alternate delegates* present and voting, elect district councilors for each individually numbered district councilor office from such district for which a vacancy is about to occur, and the chairman of the district delegation shall report at the second meeting of the House of Delegates the results of the election, and when such report is made, the member or members elected shall assume office as a district councilor or district councilors, subject to the provisions of the Constitution and By-Laws.

The time and place of the caucus of each district delegation shall, in the absence of unanimous written consent of the delegates *and alternate delegates* of the district fixing time and place, be fixed by the speaker and announced at the first meeting of the House of Delegates at each Annual Session; except that on the adoption of this section the speaker shall immediately announce a time and place for the immediate caucus of each district that is at the time of said adoption, entitled to more than one district councilor.

In the event there are more than two nominees at any district caucus for any of the individually numbered offices of district councilor in said district and none of such nominees receives a majority of the votes cast on the first ballot, the nominee receiving the smallest number of votes on such ballot shall be eliminated and a second ballot shall be taken on the remaining nominees, such process to continue until one such nominee shall receive a majority of the votes cast.

ACTION: Referred to special committee for study.

BY-LAW AMENDMENT No. 15

Author: Los Angeles delegation.

Resolved: That the membership of the House of Delegates of the California Medical Association be computed on the basis for each component society of one delegate for each one hundred active members, or major fraction thereof, according to its membership as of the first day of September of the preceding year; provided, however, that each component society shall be entitled to a minimum of one delegate, and that to accomplish this, Chapter V, Section 2 of the By-Laws, is hereby amended to read as follows:

"Commencing with the 1963 regular session of the House of Delegates, each component society shall be entitled to one delegate for each one hundred active members, or major fraction thereof, according to its membership as of the first day of September of the preceding year; provided, however, that each component society shall be entitled to a minimum of one delegate."

ACTION: Referred to special committee for study, together with Constitutional Amendment No. 3 and By-Law Amendment No. 6.

PRESIDENTS' DINNER DANCE

SUNDAY, APRIL 15

Venetian Room, Fairmont Hotel, 8:00 p.m.

Formal dress optional

Tickets will be on sale in the Main Lobby

EMERGENCY CALLS AND MESSAGES

Convention Emergency Call Number: YUkon 6-2896 — 9:00 a.m. to 5:00 p.m.

(Provided through the courtesy of the Pacific Telephone and Telegraph Company)

Registration Desk, Lobby of Grand Ballroom—Open 9:00 a.m. to 5:00 p.m.—The Association will *ATTEMPT* to transmit messages to the individual physician. Each physician must notify his own office of the exact times and meetings he plans to attend, and the convention number.

ANNUAL REPORTS FOR 1961

FOREWORD

The publication of reports of 1961 activities has been varied somewhat this year. There follow at this time several reports which are believed to be of interest to the entire membership of the Association. These will also be printed in the *Annual Reports Bulletin* which will go to all members of the House of Delegates.

Not appearing at this time are the reports of the several commissions, their committees and the various other special or Council committees. These will be published in the *Annual Reports Bulletin* and copies furnished to each member of the House of Delegates. Additional copies will be available later in the year for any member who may wish to review the reports which are not printed in the journal.

This procedure has been adopted both as a means of conserving journal space and funds but also with the thought that by eliminating the "dead time" between receipt of copy and publication of the journal, commission and other reports may be prepared at a later date and thus be more up-to-the-minute than would be possible otherwise.

REPORT OF THE COUNCIL

To the President and the House of Delegates:

Since the close of the 1961 Annual Session the Council has continued its policy of meeting ten times annually. This frequency is considered adequate to consider the items which come before the Council. At the same time, it provides a continuity of meetings which leaves items fresh in the minds of all Council members and contributes to a sound and studied review of all matters at hand.

In the past year the Council has revised its agenda somewhat. The procedure now calls for the Council members to meet at an early breakfast on each meeting date, in executive session. This permits the discussion of matters in private which might be treated less frankly before an audience. The open meeting is then staged at a normal morning starting hour and is attended by a number of invited guests, by staff members, visitors, officers of county societies, members of the Association and others.

In addition, the order of the agenda has been somewhat altered, to provide regularly scheduled times at which regular invited guests may have the floor. This permits these guests to plan their activities so as not to impinge on their available time.

Minutes of all Council meetings are published as rapidly as possible in the journal. In addition, brief notes on the major actions taken at each meeting are prepared immediately after each meeting and copies sent to all county societies and all members of the Council. It is gratifying to note that many county societies reprint these "Hi-Lites" in their bulletins and thus keep their members informed on activities at the state level. The informal tone of these notes invites questions where members are interested; these are, of course, most welcome.

Many of the matters coming before the Council during the year are concerned with reports and recommendations of the several commissions and committees. These reports will be presented to the House of Delegates by the commissions themselves and need not be gone into here. A reading of these reports, however, will convince all members that these commissions, with their numerous subcommittees and their wide and varied interests, have been fully occupied during the past year on their assigned duties.

It is the policy of the Council that all commission and committee activities be reviewed throughout the year and that any dead wood in this structure be cleared away. Where new areas of interest appear and require a standing committee for study, the Council is pleased to create such committees and to prepare suitable By-Law amendments to establish them officially.

The following report is made up to indicate some of the major areas of interest of the Council in the past year. It encompasses only a portion of the Council's business but reports, we believe, on the matters of prime interest to the members of the Association.

1. *Resolutions of the 1961 House of Delegates.*

The 1961 House of Delegates voted to refer 15 resolutions to the Council for consideration and such action as deemed desirable. The Council has either acted upon these resolutions, has referred them to special or standing committees for consideration or still has them under advisement.

In addition, the House of Delegates acted on a number of additional resolutions which called for direct action by the Council or other methods of handling.

Action taken on resolutions referred directly to the Council has been as follows:

Resolution No. 5—Relative to the location of the Director of Public Relations. Resolution was referred to special committee on Organization and Procedures, which has recommended that no action be taken until a planned public relations and communications study has been completed.

Resolution No. 6—Relative to establishment of a Department of Communications. Same procedure as with Resolution No. 5.

Resolution No. 19—Relative to uniform procedures in handling membership by transfer. Referred to Committee on Organization and Procedures and thence to Medical Executives Conference. Proposal still under consideration.

Resolution No. 31—Relative to establishment of an Economic Advisory Board. Still under consideration.

Resolution No. 59—Relative to loans to medical students. Action deferred pending A.M.A. announcement on student loan program. Such program, to be effective this Spring, eliminates need for California program.

Resolution No. 70—Relative to nursing education foundation. Resolution introduced into A.M.A. House of Delegates for national consideration.

Resolution No. 72—Relative to coverage for convalescent hospital care. Request made of insurance carriers for consideration of such coverage.

Resolution No. 83—Relative to M.D. identification on drivers' licenses. Council determined such identification is already possible and has asked state licensing authorities to look to uniform application of this option.

Resolution No. 85—Relative to a "medical marketing" study. Such study is being planned by Bureau of Research and Planning.

Resolution No. 87—Relative to sports injury insurance. Still under consideration.

Resolution No. 88—Relative to notification to the physician on admission of insured patients to hospital. Proper notice has been given to insurance carriers.

Resolution No. 93—Relative to costs of hospitalization. Such study made by the Bureau of Research and Planning and published.

Resolution No. 98—Relative to identification of "costs of illness." Principle of separating medical from hospital or other fees recognized by Council and proposal passed on to insurance carriers.

Resolution No. 100—Relative to optometry. Resolution referred to A.M.A. delegation, where subject is very much alive at this time.

In addition to these resolutions, another 64 resolutions were referred either by the House of Delegates or by the Council to various commissions and committees. Reports on many of these items appear in the commission reports. The Council is satisfied that all possible attention to these resolutions has been or will be given by the commissions and committees named and that none of these items has been misplaced or forgotten.

2. *Liaison with State Departments.*

During the past year the Council has continued its liaison with the Departments of Public Health, Social Welfare and Mental Hygiene of the State of California. The directors of all three departments are regularly invited to attend Council meetings and do so in person or through a representative. The director of the newly created State Department of Health and Welfare, Mr. Samuel Leask, has also appeared before the Council in his capacity as director of these three departments. This contact has resulted in a better understanding of the operations of these departments by members of the Council and a greater appreciation by these department directors of the problems of the practicing physician in delivering services for one or another agency. It is planned to continue this relationship in the present friendly manner.

Inasmuch as in several state programs the fees allowed for the services of private physicians have been frozen at inadequate levels, the Council has named the Committee for Emergency Action as the body to discuss such fees with state officials. The terms for such discussions have been established by the Council on the basis that present fee allowances are archaic and inadequate, that the fees allowed should be commensurate with going fees in private practice and that source material is available for a proper determination of such fees. Discussions along these lines are continuing and it is hoped that an equitable solution may be reached. It should be borne in mind that under state financing procedures, about 18 months are required to put any changed fee allowances into effect.

In addition, the Council has welcomed the deans of all medical schools in California or their representatives at Council meetings during the year. This liaison is felt to be of mutual interest and assistance.

3. *Osteopathic Unification.*

Much progress has been made in the past year on the approved plan of unification of the osteopathic and medical professions. Two changes in state law required to make this plan effective have been passed by the state Legislature, to become effective when and if the voters approve an initiative act expected to be on next November's general election ballot. The school has changed its name to California College of Medicine. An educational advisory board which includes the deans of three medical schools has worked long and successfully to arrange the scientific program of the school and a new dean, Doctor Benjamin Wells has been retained. He is a former medical school dean at University of Arkansas and will begin his new duties this summer.

Meanwhile, a court case brought against the officers of this Association, the officers of the osteopathic association, the trustees of the school and others has had its first hearing in court and nearly all the claims made against the defendants have been dismissed by the judge. The trial is still on the books and its final decision will be subject to appeal. At this time, however, the outcome appears to be in favor of both associations and the school.

The special session of the 1962 Legislature is expected to place on the ballot for next November the final legislative steps which need be taken to make the unification complete.

Every step in this program is being followed carefully by the Council and all actions required to make the plan completely successful will be taken in accordance with the decisions of the House of Delegates.

4. *Speakers' Bureau.*

In conformity with a House of Delegates resolution, the Council has authorized the formation of a Speakers' Bureau for the Association and has provided interim funds for its operations to date. Councilors Teall and Anderson serve as co-chairmen and Councilor Quinn participates at the policy-making level. The bureau has been successful to date in lining up a number of speaking engagements for officers and other selected speakers, where the Association representative is enabled to present the profession's side of pending legislation. In the past few months a staff representative has been employed to work on this activity in making arrangements for speaking engagements and following through on the many details involved. The Council believes that this bureau will become increasingly effective as time goes on.

5. *California Physicians' Service.*

The Council is pleased to receive reports at each meeting from the officers of California Physicians' Service and to note its progress in providing prepaid health care. In the recent choice by state employees of the type of coverage and the carriers they preferred, it is noteworthy that C.P.S. retained a large group of state employees already enrolled and in its capacity as partner with Blue Cross enrolled a larger number of state employees than the insurance, closed panel or other plans offered.

C.P.S. has appointed Doctor T. Eric Reynolds, former C.M.A. president, as part-time president and his ability and prestige are sure to assist the organization greatly in its further progress. It is interesting to note that enrollment of beneficiary members is now more than 1,000,000, that there are more than 15,000 physician members and that total administrative costs for 1962 are scheduled to run less than 10 per cent.

The C.M.A.-C.P.S. Liaison Committee has now been made a special committee of the Council, which holds actual fee and policy discussions with C.P.S. under the fee studies developed by the Commission on Medical Services.

6. *Legislation.*

The Committee on Legislation has continued its good work during the past year and has been particularly active in following the growing schedule of legislative interim committee hearings. The practice of medicine and the public health are involved in so many of these hearings that it is essential to have representatives in attendance.

Later in 1962 the committee will follow the results of the June primaries and the November elections, which promise to result in a large number of new faces in the 1963 Legislature. The views of candidates on medical issues are of extreme importance to the committee and to the Association and it is evident that a large orientation program will be involved in the coming year.

There is pending at this time an initiative measure which proposes an outright system of state compulsory health insurance. Sponsors of the measure have secured a title from the Attorney General and will have until about the middle of April to secure and qualify more than 520,000 valid signatures of voters. Should this measure qualify for the November ballot, the C.M.A. will be faced with the necessity of a campaign in opposition.

The Council is completely confident in the ability of the Committee on Legislation to carry on its activities in the effective manner it has displayed in the past. The thanks of the C.M.A. should be directed to this committee, its members, and the personnel of the Public Health League of California for the splendid work and fine results in behalf of medicine.

7. *Medicare.*

Early in 1962 the contract with the Department of Defense was extended for another year. The principal change is that a schedule of allowable fees will no longer be provided. However, the maximum allowable fee schedule remains in effect. In general, physicians are asked to bill their usual or normal fee for like services provided to an individual with an annual income of $4,500 or less when such charges are less than the stated maximum allowance.

8. *Veterans' Administration.*

In this federal program, which has been administered by California Physicians' Service for the home-town care of veterans with service-connected disabilities, C.P.S. has now been eliminated as the intermediary organization. This elimination is in line with what the VA has done in other states over the past seven or eight years. Physicians are still entitled to provide services for these veterans, where authorized, but the billing and payment procedures are now processed by the VA. Here, again, if abuses should appear, physicians will do well to let the C.M.A. know of specific cases where complaints may be merited.

9. *Bureau of Research and Planning.*

The Bureau of Research and Planning, which is reporting individually to the House of Delegates, has continued its program of seeking worthwhile socioeconomic answers to a large number of questions relating to medical practice. The bureau follows a policy of preparing a list of suggested research topics, aligning these in order of priority and engaging in research work following Council approval of a specific topic, its cost, time required, etc. Under this program some activities will necessarily cover more than one fiscal year. Where this occurs, the budget has been calculated to show the new activities and the continuing projects separately.

During 1961 the Council authorized the incorporation of a new entity, known as California Medical Education and Research Foundation. This has been set up as a nonprofit corporation which can engage in research and medical educational activities and which can qualify for tax-deductible contributions from corporations, foundations and others. Some initial grants have already been received by the foundation and applications have been filed for others. In addition, an announcement of the foundation has been sent to a large number of potential contributors, with a request for consideration for research funds. It is anticipated that this activity, which will be closely correlated with the work of the Bureau of Research and Planning, will grow in stature in the coming years and will provide for the entire nation some valuable research findings.

10. *Conference of County Society Officers.*

At this writing plans have been completed for the annual Conference of County Society Officers. A program to stress the quality of medical care has been arranged, with outstanding speakers from other states who are considered experts in their chosen fields. This conference offers a chance to bring together the county society officers and leaders from the entire state for a review of national conditions, trends and policies. It has proved to be a stimulating experience in past years and the 1962 program should match its predecessors in this regard. Suggestions for program material and format are solicited from all areas and the resulting program appears to meet very well the desires and needs of medical leaders from all counties on subjects which affect the practice of medicine today.

11. *Communications.*

During the past year the Council has given considerable thought to the broad subject of communications. In an organization which is constantly growing, the need of adequate communications is obvious. In order to seek means of creating a better system of communications, between the C.M.A. and the county societies, the C.M.A. and its members, the C.M.A. and the public, a detailed study has been authorized. Portions of the study will be done within the staff structure of the Association and other portions will be undertaken by authorities in this field who have been retained for this specific purpose. It is anticipated that before the end of this year a blueprint may be produced which will lead to better communications, a better understanding of the problems which confront the profession and a more vigorous and effective method of getting a message from one place to another. The Council minutes in the coming year will reflect whatever progress may be made along these lines.

12. *Public Relations.*

As is true in all large professional organizations, public relations represents an extremely important and costly item. The medical profession has been seized upon as a whipping-boy by many other people and interests in recent years and the natural reaction of medical organizations has been to combat this segment of public opinion and to seek ways and means of correcting false impressions. On the theory that the best public relations are those stemming directly from a doctor to his patient, the C.M.A. has worked for several years on the production of material which a physician may furnish his patient and the production of broad-scale public messages which seek to explain how physicians operate and how their procedures are in the public interest. In this latter field heavy emphasis has been placed on television in the past two years and a broad coverage of the state has been achieved with the programs distributed as public-service matter. This year the question has arisen as to whether or not this form of public relations may be reduced, in the production but not the distribution aspect. There is admittedly a variance of opinion on this question, both in the Council and among the membership. The final decision at this time will necessarily rest in the House of Delegates in the consideration of the budget for the coming year.

Part of the study of communications mentioned above will encompass public relations, its objectives, techniques, etc. If changes in the program are indicated as a result of these studies, the Council will be prompt to act.

13. *Committee on Scientific Activities.*

Late in 1961 the Committee on Scientific Activities and Continuing Education rendered a lengthy and important report to the Council, together with recommendations covering the entire field of study envisaged in the committee name. These recommendations will require considerable thought and it is urged that all members of the House of Delegates take the time required to study and digest the entire report so that a definitive answer may be reached on this most important part of the Association's activities. The report covers such items as postgraduate training programs, representation of the scientific side of the Association in the House of Delegates, publication of CALIFORNIA MEDICINE and other items.

14. *Medical Quackery.*

The Council has authorized participation of the C.M.A. in a congress on medical quackery to be held in the fall under the auspices of the A.M.A., several federal and state agencies, the C.M.A. and others. This will follow a most successful conference along these lines recently held in Washington and widely attended. It is hoped that an enthusiastic welcome may be given this congress when it is held in California.

15. *Committee on Organization and Procedures.*

In accordance with the ruling of the 1961 House of Delegates, the Council named a special Committee on Organization and Procedures to review several proposed amendments to the Constitution and By-Laws introduced into that House and to study various other proposals which fall into related categories. This committee has prepared a report for the House of Delegates and has given the Council an opportunity to review its recommendations in advance. It is apparent that this committee has done an excellent job and that its recommendations will doubtless assist the House of Delegates in reaching a number of decisions this year.

16. *Legal Department.*

The Council has again, as in the past, leaned heavily on Peart, Baraty and Hassard for legal advice and rulings during the past year. It is a pleasure to report that the services of this firm and its extremely able representatives have at all times come fully up to anticipation and have gone far ahead of normal requirements. Legal counsel will make a report to the House of Delegates which will be most informative and interesting to all.

17. *County Hospitals.*

Request was made by the board of supervisors and by the county medical society in one county for a review of the county hospital in the area, its teaching facilities, relationship with physicians and the county society and its operating procedures. The Council appointed a team of physicians to review this matter and a report has now been given to the supervisors. This request followed a request made in another county to the American Medical Association, which was promptly and effectively met and which resulted in considerable improvement in the county institution. When and if further requests of this type are received, the Council is prepared to take such steps as may be required in looking after the public interest.

18. *Travel Insurance.*

The Council authorized the rewriting of travel insurance for officers, councilors, staff members and commission and committee members when traveling on Association business. These individuals are now covered for as much as $100,000 in the event of accidental death or dismemberment while traveling on C.M.A. business. It is believed that protection of this type, which is relatively inexpensive, is due those who devote their time to C.M.A. affairs.

19. *Procedures of House of Delegates.*

The Council has approved a proposal of the special Committee on Organization and Procedures designed to produce the earlier presentation of resolutions and other business to come before the House of Delegates. This calls for all such matters to be submitted to the C.M.A. office 30 days in advance of the meeting of the House, so that they may be reproduced and copies furnished to all House members. Where the 30-day limit is not met, provision is made for all items to be presented at least one week in advance, so that copies may be available when members of the House first register for a meeting. Any items received less than seven days in advance would then undergo review by the Council, to determine if they were of a true emergency nature. Items introduced on the floor of the House would be reviewed by a committee of the House established for that purpose. The Council intends to introduce By-Law amendments to carry out these proposals. Meanwhile, observance of these principles this year is seriously urged.

The Council has also approved a rearrangement of House meetings, so that the first meeting will be held Saturday evening, followed by a second meeting Tuesday afternoon, when the elections will be held. Reports of reference committees and closing ceremonies will take place on Wednesday as a recessed portion of the Tuesday meeting.

It is believed that these changes in procedures will aid immeasurably in the smooth and efficient conduct of the business of the House of Delegates.

20. *Budget for 1962-1963.*

The Council, acting on the recommendation of its own Finance Committee, will approve a budget for the fiscal year to start July 1, 1962. The preparation and consideration of this budget has occupied many days of man-effort and it is hoped that the House of Delegates will give the proposed budget a thorough and knowledgeable review. The Association is now of a size where it handles about $1,500,000 annually, a large sum of money which must be carefully and wisely allotted. Inherent in the consideration of the budget is the consideration of all programs undertaken by the Association. It is the policy of the Council to have the budget arranged on a functional basis so that the cost of specific items may be determined for consideration with the project involved.

Conclusion. This report mentions only the major areas of activity and consideration of the Council during the past year. Council representatives will attend all reference committee hearings in the House of Delegates and will be happy to discuss any questions brought up there. Should a supplemental report of the Council be required, it will be made on the floor of the House of Delegates.

In conclusion, may I express the thanks of all members of the Council for the splendid work carried on by the officers of the Association and by all who contribute so valuably to the work and activities of the California Medical Association through commissions, committees and other functions. Without this tremendous amount of personal interest and dedication, the Association could not function with any semblance of effectiveness.

In behalf of the entire Council, may I also express thanks to our loyal and most valuable staff. These dedicated individuals are constantly at our service and their functions are performed with a maximum of effectiveness and a minimum of fuss. I believe we all owe them a sound round of applause for carrying out their assigned duties in such excellent fashion.

Respectfully submitted,
Samuel R. Sherman, *Chairman*

REPORT OF THE COMMITTEE FOR EMERGENCY ACTION

To the House of Delegates:

The Committee for Emergency Action is composed of the President, the President-Elect, the Chairman of the Council and the Speaker of the House of Delegates.

It was established several years ago as a means of providing a small group with power to act on matters which may be delegated to it by the Council or which arise between Council meetings and require action prior to the next scheduled meeting.

In all instances, the decisions and actions of this committee must be approved by the Council at its next meeting.

During 1961 this committee has met on various occasions and has reported its decisions to the Council. Its acts have all borne Council approval and have been published under the Council minutes.

The Committee for Emergency Action, comprising the four elected officials of the Association, has the prestige required for various matters which come before the Council and the combined knowledge and experience of the officers of the Association. It provides a speed and flexibility which are impossible with a larger and more unwieldy group and serves a definite and necessary function.

Respectfully submitted,
Warren L. Bostick, *Chairman*

REPORT OF THE EXECUTIVE SECRETARY

To the President and the House of Delegates:

This report will, as it did a year ago, represent a composite report of the entire staff of the C.M.A. The executive secretary acts as draftsman but submits his report in behalf of all your employees.

The California Medical Association has undergone a period of rapid and substantial growth in the past two years. It has increased the size of its staff, increased the office area needed and entered into a number of new activities approved by the House of Delegates or the Council. At present it is more or less on a plateau, the horizontal aspects of which may be ascribed to several factors, including satisfactory growth. lack of office space, lack of available funds, etc. Basically, it appears that the growth pattern approved several years ago has been pretty well achieved at this point and the time has come to consolidate gains and look into the future from the elevation now reached.

During this growth period it has been the constant endeavor of the staff to provide for the Association the information, the services and the activities approved by the managing bodies. While any transitional period is bound to be accompanied by difficulties, it is believed that a minimum of dislocation or wasted effort has been encountered during these growth years. At the present time, it is believed that a well-rounded organization is at your service and that it contains the talent, the thought and the time required to pursue the objectives set down by the House of Delegates and the Council.

At the same time, it should be mentioned here that office space in the headquarters building is now at a premium. The addition of administrative and clerical employees, each of whom requires space in which to work, has reached the point where future additions will cause a great problem in the attempt to fit them into the organizational scheme spacewise. The Council has already been advised on this point and it is well for the members of the House of Delegates to consider this fact when and if considering activities which will add to the overall staff structure of the Association.

This report will take up various activities by sections. If there are questions on any item contained or not contained in the report, ample opportunity will be provided before the reference committee of the House of Delegates for further inquiry.

1. *Administrative.* The arrangement of staff activities has been maintained on a departmental basis, so far as that is possible, during the past year. Where additional activities are voted, some rearrangements of personnel are required but these are kept at a minimum.

Equipment, including a variety of machines ranging from typewriters to a new high-speed postage meter, has been kept in excellent shape. Policy calls for replacing obsolete or worn machines at periodic intervals so that at all times the equipment in the office is up to date, modern and workable. Maintenance contracts with suppliers are maintained on all new equipment, so that periodic inspections and adjustments are made and the machines kept in good order.

Only major item of new equipment needed in the past year has been a larger postage meter. This replaces a machine which had been in use for three years and had proved itself incapable of handling the volume of work placed on it. The new machine provides greater capacity, greater speed and an improved outlook for life expectancy.

In the reproducing and mailing department, referred to as Office Services, regular schedules of orders and production have been established so that all work may be handled in orderly fashion. Emergency work can always be fitted into this tight schedule but is discouraged as much as possible in the interest of a regulated and orderly production. Work performed in this department is billed to the various sources in the same manner as outside commercial work would be charged. It is interesting to note that this section of the Association is paying its own way and not requiring any provision in the budget.

2. *Personnel.* The staff of the Association at this time totals 54 people. This is up five employees since a year ago, the additions being in departments or activities which did not exist last year. Of the total employees, 20 are of an administrative character and 34 are clerical or technical. Two clerical employees are on a part-time basis, two administrative employees are part-time and one administrative employee works jointly with an allied organization and half his compensation is met from that source.

The staff is adequate at this time to meet all demands made on it. However, additional duties for items not previously assigned may require additional employees. The staff is organized on a basis where normal changes in the work load may be accommodated but additional projects will probably require additional personnel.

3. *Membership.* As in every year for the past quarter century, the Association again showed a membership gain in 1961. The gain in 1961, however, was fewer in number and smaller percentagewise than has been noted in previous years. As of November 1, 1961, membership rolls totaled 17,583 active members, a gain of 516 members from the preceding year, or 3 per cent. In the preceding year a gain of 585 members, or 3.55 per cent, was registered. The 1961 gain was the smallest, percentagewise, in recent years and continues a downward trend in growth figures noted in the past few years. It is interesting to note that while about 1,100 new members are admitted each year, only about half that number appear as net membership gains at the close of the year. Deaths, removals from the state and other causes for dropping membership take away half of the gain in new members. At the same time, as the total membership grows, a numerical gain represents a decreasing percentage of the total on a comparative basis.

On a comparative basis, 26 county societies registered a membership gain, nine showed a loss and five remained even in membership in the past year.

The record of membership by counties, as of November 1, 1961, and a year earlier, follows:

Active Membership in the C.M.A. by County Societies

	Nov. 1, 1960	*Nov. 1, 1961*
Alameda-Contra Costa	1,504	1,540
Butte-Glenn	86	91
Fresno	276	294
Humboldt-Del Norte	91	89
Imperial	52	53
Inyo-Mono	9	9
Kern	230	228
Kings	34	34
Lassen-Plumas-Modoc	27	25
Los Angeles	7,094	7,226
Madera	18	18
Marin	184	193
Mendocino-Lake	55	59
Merced	58	57
Monterey	184	190
Napa	80	78
Orange	587	652
Placer-Nevada-Sierra	72	72
Riverside	236	246
Sacramento	429	471
San Benito	11	9
San Bernardino	366	358
San Diego	912	958
San Francisco	1,728	1,745
San Joaquin	219	234
San Luis Obispo	86	88
San Mateo	507	515
Santa Barbara	225	248
Santa Clara	755	816
Santa Cruz	98	104
Shasta-Trinity	68	71
Siskiyou	23	24
Solano	74	79
Sonoma	168	170
Stanislaus	164	158
Tehama	17	19
Tulare	114	111
Ventura	123	147
Yolo	48	49
Yuba-Sutter-Colusa	55	55
Total	17,067	17,583

4. *Financial.* Complete financial reports of the Association, the Trustees of the California Medical Association and Physicians' Benevolence Fund, Inc., are set forth on another page under the report of the Finance Committee. The figures there tell their own story.

In brief, all three funds operated for the fiscal year ended June 30, 1961, with an excess of income over expenditures. In the case of the Association itself, the net gain for the year was $23,241, compared with a net loss for the preceding year of $20,054.

Income from dues, interest and other general sources amounted to $1,142,423, compared with $861,473 for the preceding fiscal year. Income from the journal came to $209,553, compared with $237,045 for the 1960 year, both exclusive of the allocation of dues in lieu of subscriptions. Final results for the journal showed an excess of $35,255 of income over expenditures for the year, compared with an excess of $54,680 for the preceding year. Income from advertising dropped to $207,230 from $234,007, due to retrenchments in the pharmaceutical advertising field which have applied to all publishers.

Administrative expenses during the 1961 fiscal year were $386,990 net, compared with $383,428 net for the preceding year. The cost of meetings went up from $81,271 to $93,453, the expense of travel increased from $37,534 to $45,594 and the group retirement and insurance program for employees rose from $6,154 to $19,167. On this item, it must be borne in mind that the new retirement and insurance program was instituted during the 1961 fiscal year and expenses were charged under this heading which previously were borne by other funds. The major cost item, a retirement annuity program, was formerly carried by Trustees of the C.M.A.

Scientific, educational and public relations costs in the 1961 year totaled $767,447, compared with $552,779 the preceding year. This class of expense includes the costs of all commission and committee activities and contributions made to the benevolence activities, American Medical Education Foundation, libraries, etc. Largest increases registered in this section of the accounting report were for public policy and public relations activities, up from $130,947 to $265,458, research and planning, up from $18,500 to $50,543, and public health and public agencies, which rose from $13,122 to $29,623. Professional welfare activities showed a decrease for the year and other commission activities recorded moderate increases.

It should be pointed out that certain increases in expenditures are unavoidable. For instance, when postal rates are increased by the Congress, the cost of postage advances. When membership grows, additional costs of printing, mailing, handling of membership reports, etc. are encountered. Tax rates for Social Security, unemployment, etc., continue to rise and to add to total costs. In the past few years the Association has been faced, along with all other organizations and businesses, with a spiraling trend of costs in practically every area where money is spent. The cost of travel and of holding meetings has advanced and it is incumbent on those planning events to take these rising costs into consideration. Large committees and large meetings cost more than small ones and consideration has been given to reducing the size of some meetings and some committees as a means of cutting costs without unduly impairing Association activities.

In the year ahead, we may look for further increases in costs, especially in the fields of postage and taxes. The budget for 1962-1963 will necessarily reflect these increases. All efforts are being made in the preparation of the budget to conserve funds wherever possible. All members of the House of Delegates are welcome at the reference committee hearings where the budget will be considered.

5. California Medicine. The journal continued to occupy an outstanding position among state and regional medical journals during the past year. Its circulation continues to grow and its scientific content has continued improving

under a forward-looking editorial policy. Further improvements and changes in the journal have been proposed by the scientific activities committee and, if such recommendations are approved, the journal will show changes in size, format and appearance as the months go by. Mechanically, any reasonable changes can be readily accommodated when and if approved.

California Medicine, as noted earlier, produced a smaller net return in the 1961 fiscal year than in the preceding year. Advertising revenues were smaller, due in part to decreased promotional efforts by many advertisers and in part to the continuing critical attitude of the advertising committee which screens all offered advertisements. For 1962, advertising rates have been increased in line with increased circulation and it is hoped that the current fiscal year will show an improvement, financially, over last year. As advertising volume decreases, the total size of the journal can be similarly decreased, so that the net loss is less than might be expected. Continuing review is made of all journal expenses and all possible economies are followed.

6. *Annual Session.* Arrangements are now being completed for the 1962 Annual Session, to be held in San Francisco. For the first time in many years, the Fairmont and Mark Hopkins hotels will be used as headquarters and the facilities of both have been carefully allocated to the many meetings and other activities. Meeting expenses in San Francisco are generally higher than are encountered in Los Angeles and it is expected that the total cost of this meeting will show an increase over those for last year. Higher costs are prevalent for the use of meeting and other rooms in San Francisco, whereas in Los Angeles many such rooms are complimented. Hotel rates are also generally high in San Francisco.

During each year the Association is importuned by various cities to hold the Annual Session in their facilities. To date no cities other than San Francisco and Los Angeles have presented facilities considered adequate for the meeting. Each year a total registration of 5,000 or more persons is recorded and it is obvious that few cities in the state can provide housing, meeting and exhibit space and the many other elements needed for a successful C.M.A. meeting.

7. *Conclusion.* Your California Medical Association is the second largest association in the country. It is operated under the control of the House of Delegates and the Council, the orders of which are carried out by the staff. At this time the staff is adequately manned for all foreseeable activities and is prepared to make such changes in procedures and operations as may be developed from changing Association policies and practices. Staff members represent a dedicated group who are happy to put into action those programs approved by the policy-making bodies of the Association. They are likewise happy to have the opportunity of working with the officers, members of the Council and commission and committee members throughout the year. We have every anticipation of continuing in this cooperative attitude in the years to come. Our thanks go to those members of the Association who contribute so freely of their time and talent to further the interests of the C.M.A.

Respectfully submitted.
John Hunton, *Executive Secretary*

REPORT OF THE PHYSICIANS' BENEVOLENCE FUND, INC.

To the House of Delegates:

Physicians' Benevolence Fund, Inc., continued its benevolent work during the past year and provided needed financial assistance for several physicians and their families.

This fund has now operated for more than 20 years and has been able to help out in a number of cases of real need. Among these may be cited the young physician who dies suddenly and leaves a widow and several children at a time when the physician was just gettting started in practice. Or, a widow who is supporting several children who becomes incapacitated and needs help. These are situations which have occurred and have called on the fund for help.

The fund is intended to serve as a temporary source of aid to needy physicians and their families. It is not set up as a retirement program and it is not an insurance plan. Its intent is to take up the slack when a family is in financial need and to supplement other sources of income when these are insufficient to permit a medical family to maintain decent standards.

In most instances where help is needed, the need is temporary in nature. In some cases the medical or the general community sets up a trust or other fund to help a medical family and the fund is asked to contribute to it. In some cases a physician is being cared for in a rest home and needs supplementary help to meet expenses.

The latest audited report of the fund is published on another page of this issue (see page 69). It shows that during the fiscal year ended June 30, 1961, income amounted to $23,755, including $17,344 from dues of C.M.A. members, $3,377 contributed by the Woman's Auxiliary, $2,784 earned interest and $250 returned by a beneficiary physician who was rehabilitated and no longer in need.

Expenditures for that fiscal year amounted to $12,276, of which $6,000 was contributed to Los Angeles Physicians' Aid, $5,900 was paid out for other beneficiaries and $376 went for expenses. It should be noted that there are no operating expenses for the fund, that its overhead costs are handled without charge by the Association and its staff. The only expenses encountered are the moderate costs of travel for the operating committee's annual meeting and the cost of an annual audit of the books.

At the close of the 1961 fiscal year the fund reported assets of $133,368, including $38,161 in cash, $44,000 in government securities, $1,207 in accrued interest and $50,000 on loan to Los Angeles Physicians' Aid. This loan was authorized on the basis of 2½ per cent interest on the unpaid balance, to assist in the construction of a nursing home in Los Angeles. Repayment was started late in 1961, on schedule but not appearing in the operating statement for the period ended earlier in the year.

An operating committee for the fund is appointed each year by the Trustees, who, in turn, are members of the Council appointed by that body. This committee is composed of Doctors Ford P. Cady and Elizabeth Mason-Hohl of Los Angeles, Don Musser and Alexander Fraser of San Francisco, George Wolf of Fresno and Clyde Boice of Santa Clara County. Each has participated in the activities of the fund and each has been prompt to evaluate and pass on the applications for benefits which are filed with the C.M.A. office. Our thanks go to all of them for a splendid performance and in an excellent cause.

Contributions to the fund from the C.M.A. will continue this year at the minimum rate of $1 per active member of the Association, the rate specified in the constitution. It is believed that this sum will provide adequate funds for this beneficent activity.

Respectfully submitted,
Warren L. Bostick, *President*

REPORT OF THE FINANCE COMMITTEE

To the President and the House of Delegates:

While the Finance Committee is actually a committee of the Council and reports to that body, the usual policy of publishing complete financial reports for the review of all members of the Association is again being followed. These reports will be reviewed by a reference committee of the 1962 House of Delegates.

On succeeding pages will be found the audited reports of the Association, of Trustees of the California Medical Association and of Physicians' Benevolence Fund, Inc. These reports include balance sheets as of June 30, 1961, and statements of income and expenditures for the fiscal year ended that date.

All reports have been prepared by John F. Forbes & Company, certified public accountants.

During the past year the Finance Committee has reviewed the financial situation regularly, has reported to the Council throughout the period and has considered all proposals made to the Council for the expenditure of funds not included in the budget approved by the House of Delegates. Council policy requires a three-fourths affirmative vote to add appropriations to the budget and also requires that all proposals for additions be reviewed by the Finance Committee, which shall make recommendations.

The Association completed the 1961 fiscal year with an excess of $23,241 of income over expenditures, compared with an excess of expenditures over income of $20,054 for the preceding fiscal year and of more than $49,000 for the 1959 fiscal period. This means that the Association lived within its income for the year and did not continue the deficit financing of the preceding two fiscal years.

Trustees of the California Medical Association, the holding company which maintains the accumulated funds of the C.M.A., also operated with an excess of income over expenditures, both as to its normal operations and the operation and maintenance of the 693 Sutter building. The building is now almost completely occupied and represents a suitable investment for the Trustees, both as a home for the Association and as a source of income.

Physicians' Benevolence Fund, Inc., completed its fiscal year with an excess of income over expenditures and continued to build its reserve funds. The fund met all requests for benevolences during the year and has been able to assist in various cases of need in several areas of the state.

The Finance Committee is preparing a budget for the 1962-1963 fiscal year. This will be reviewed by the Council and then presented to the 1962 House of Delegates for approval. Representatives of the Finance Committee will appear before the reference committee of the House in regard to this budget.

In submitting this report your chairman wishes to thank Doctors Ivan C. Heron, Burt L. Davis, John F. Murray and J. Norman O'Neill for their faithful attendance at committee meetings during the year and their sound and considered judgment at all times.

Respectfully submitted,

RALPH C. TEALL, *Chairman*
Finance Committee

CALIFORNIA MEDICAL ASSOCIATION

Statement of Net Assets, June 30, 1961

ASSETS:			
Cash			$188,058
Accounts receivable, net:			
Trustees of the California Medical Association:			
Due toward funding Past Service Pension (contra) (Note 1)	$24,114		
Miscellaneous	107	$ 24,221	
Other		31,310	55,531
Loans receivable—Central California Blood Bank		$110,500	
Less reserve		110,500	....
Notes receivable:			
Trustees of the California Medical Association		$270,000	
Six Ninety Three Sutter Publications, Inc.		8,986	278,986
Furniture and fixtures (at nominal value)			1
Prepaid insurance			2,657
Other prepaid expense and deferred charges			9,187
Deposits			1,662
Total			$536,082
LIABILITIES, DEFERRED INCOME, AND RESERVE:			
Accounts payable:			
American Medical Education Foundation		$167,238	
Other		57,719	$224,957
Deferred income:			
Commission on Medical Education		$ 10,890	
Other		502	11,392
Reserve for past service annuity premiums (contra) (Note 1)			24,114
Total			$260,463
NET ASSETS (Note 2)			$275,619

Statement of Income, Expenditures, and Net Assets for the Years Ended June 30, 1961 and 1960

	YEAR ENDED JUNE 30	
	1961	1960
INCOME:		
Dues and general:		
Membership dues less portion allocated to CALIFORNIA MEDICINE subscription (Note 2)	$1,113,719	$840,266
Postgraduate institute	19,165	12,445
Fee for collection of American Medical Association dues	4,238	4,140
Interest earned	5,215	4,598
Other	86	24
Total	$1,142,423	$861,473
Official journal CALIFORNIA MEDICINE:		
Advertising	$ 207,230	$234,007
Nonmember subscriptions	2,266	2,300
Reprints, net	57	738
Total	$ 209,553	$237,045
Less expenditures (Schedule 1)	228,592	235,146
Direct (*cost*) gain	$ *(19,039)*	$ 1,899
Allocated portion of members' dues	54,294	52,781
Total	$ 35,255	$ 54,680
TOTAL INCOME	$1,177,678	$916,153
EXPENDITURES (Schedule 1):		
Administration	$ 386,990	$383,428
Scientific, educational, and public relations	767,447	552,779
TOTAL	$1,154,437	$936,207
EXCESS OF INCOME OVER EXPENDITURES FOR THE YEAR	$ 23,241	$*(20,054)*
OTHER CREDITS, NET:		
Reduction in reserves on account of payment on loans	$ 14,244	$ 16,876
Expenses applicable to prior year, net		*(891)*
OTHER CREDITS, NET	$ 14,244	$ 15,985
NET ASSETS:		
INCREASE (*Decrease*) FOR THE YEAR	$ 37,485	$ *(4,069)*
AT BEGINNING OF YEAR	238,134	242,203
AT END OF YEAR (Note 2)	$ 275,619	$238,134

(Notes 1 and 2 appear on page 69)

CALIFORNIA MEDICAL ASSOCIATION

Schedule 1

Statement of Expenditures for the Years Ended June 30, 1961 and 1960

	YEAR ENDED JUNE 30	
	1961	1960
ADMINISTRATION:		
Salaries:		
Executive	$ 42,508	$ 48,726
Clerical	58,586	51,441
Total	$101,094	$100,167
Office:		
Rent	$ 19,492	$ 15,942
Equipment purchases and maintenance	11,511	39,101
Supplies	16,962	11,968
Telephone and telegraph	11,120	8,508
Postage	2,934	3,878
Professional fees (other than legal)	4,004	3,485
Los Angeles (other than salaries)	4,852	4,086
Sundry	2,167	4,322
Total	$ 73,042	$ 91,290
Less services charged to other accounts (including billings to others of $8,320).	25,766	
Net	$ 47,276	$ 91,290
Legal	$ 36,322	$ 35,588
Meetings:		
Annual session	$ 47,636	$ 43,422
American Medical Association	44,345	44,078
Student assistance—A.M.A.	4,373	1,307
Council	7,296	8,188
Medical executives	7,591	9,006
County officers	17,597	9,551
Financial and judicial	795	1,394
Total	$129,633	$116,946
Less annual session exhibitors and postgraduate fees	36,180	35,675
Net	$ 93,453	$ 81,271
Travel:		
Council	$ 23,464	$ 19,816
Officers	17,140	13,278
Administrative	4,990	4,440
Total	$ 45,594	$ 37,534
Group Insurance and Retirement Program:		
Retirement Program—Current service	$ 7,340	
Group Life Insurance	3,081	
California Physicians' Service	8,746	$ 6,154
Total	$ 19,167	$ 6,154
Other:		
The Woman's Auxiliary	$ 5,854	$ 6,253
Payroll taxes	9,349	6,681
Personal property taxes	1,435	1,105
Dues and subscriptions	4,753	3,743
Insurance	5,337	4,421
Placement	13,363	7,802
Interest	3,513	939
Sundry	480	480
Total	$ 44,084	$ 31,424
TOTAL	$386,990	$383,428
SCIENTIFIC, EDUCATIONAL AND PUBLIC RELATIONS:		
Medical services	$ 50,875	$ 50,495
Community health services	25,827	17,361
Cancer commission, net	41,379	34,880
Public health and public agencies	29,623	13,122
Medical education, net	67,256	59,507
Professional welfare	19,732	23,272
Bureau of research and planning	50,543	18,500
Public policy and public relations	265,458	130,947
Special committees	20,354	14,135
Contributions:		
American Medical Education Foundation	167,237	162,505
Physicians' Benevolence Fund, Inc.	17,344	16,704
Medical Libraries	8,819	8,351
Nursing League	3,000	3,000
TOTAL	$767,447	$552,779
OFFICIAL JOURNAL—CALIFORNIA MEDICINE:		
Printing	$152,308	$165,213
Salaries	33,485	30,372
Advertising sales expense (including applicable salaries)	19,429	15,955
Rent	3,384	3,401
Telephone and telegraph	2,821	2,383
Postage and mailing	7,472	7,594
Addressograph	1,685	3,056
Illustrations	2,616	1,628
Cost discounts—Advertisers	3,616	4,070
Sundry	1,776	1,474
TOTAL	$228,592	$235,146

PHYSICIANS' BENEVOLENCE FUND, INC.

(A Nonprofit Corporation)

Statement of Assets, June 30, 1961

ASSETS:		
Cash—Crocker-Anglo National Bank		$ 38,161
Investments:		
U. S. Treasury Bonds 2½%, at maturity values:		
Due December 15, 1969	$10,000	
Due December 15, 1972	34,000	
Total (market value $38,500)		44,000
Secured note receivable—Los Angeles County Physicians Aid Association (due in quarterly installments of $1,000, beginning September 1, 1961, with interest at 2½% per annum)		50,000
Accrued interest receivable		1,207
TOTAL		$133,368
SOURCE OF ASSETS:		
Contributed at organization	$92,132	
Excess of income over expenditures	41,236	
TOTAL		$133,368

PHYSICIANS' BENEVOLENCE FUND, INC.

Statement of Income and Expenditures for the Year Ended June 30, 1961

INCOME:		
Contributions received:		
California Medical Association (see note)	$17,344	
The Woman's Auxiliary of the California Medical Association	3,377	$20,721
Contribution returned by beneficiary		250
Interest earned:		
U. S. Treasury bonds and notes	$ 1,304	
Loans	1,480	2,784
TOTAL		$23,755
EXPENDITURES:		
Payments to beneficiaries:		
Payment to Los Angeles County Physicians Aid Association	$ 6,000	
Payments to other beneficiaries	5,900	
Total payments to beneficiaries	$11,900	
Other	376	
TOTAL		$12,276
EXCESS OF INCOME OVER EXPENDITURES:		
CURRENT YEAR		$11,479
TOTAL AT BEGINNING OF YEAR		29,757
TOTAL AT END OF YEAR		$41,236

NOTE: The constitution of the California Medical Association, Article IV, Section 6, was amended in May, 1956, and provides: "At least $1 out of the annual dues paid by each active member of the Association shall be allocated to the Physicians' Benevolence Fund, Inc., a corporation, and shall be used for the purposes as set forth in that corporation's Articles and Bylaws."

CALIFORNIA MEDICAL ASSOCIATION

NOTES TO FINANCIAL STATEMENTS, JUNE 30, 1961

NOTE 1: The California Medical Association has adopted a Group Pension Program effective January 1, 1961. Also, for certain full time employees, the Association intends to provide a Past Service Pension. The present cost to fund this Past Service Pension aggregates $130,257, as determined by the insurer of the program. The greater part of this amount is to be paid from monies received from the Trustees of the California Medical Association from cash obtained by them upon surrender of certain life insurance policies. The cash surrender value of these policies at June 30, 1961, as computed by the insurance carriers aggregated $118,927, of which $24,114 had been received by the Trustees but was not remitted to the Association at June 30, 1961.

NOTE 2: The current membership dues shown as income represent principally dues for the full calendar year of 1961 without deferring the portion applicable to the six-month period subsequent to June 30, 1961. If such dues and related subscriptions had been prorated and the applicable income deferred to the period subsequent to June 30, 1961, the net assets at that date would have been reduced by approximately $495,000.

TRUSTEES OF THE CALIFORNIA MEDICAL ASSOCIATION

(A Nonprofit Corporation)

Statement of Net Assets, June 30, 1961

ASSETS:		
Cash		$ 90,941
United States Treasury bonds, at maturity value (market value, $1,074,119)		1,121,000
Contract and note receivable		37,400
Accrued interest		2,540
Investments, at cost:		
Pacific Magnetic Tape Equipment Co.	$ 9,000	
Six Ninety Three Sutter Publications, Inc.	1,000	10,000
Property, at cost (subject to mortgage):		
Land	$ 87,400	
Building and improvements	295,938	
Total	$383,338	
Less accumulated depreciation	19,477	
Net depreciated value		363,861
Equipment, at nominal value		1
Cash surrender value of life insurance policies (contra)		94,813
Balance receivable under a death settlement plan		2,663
Prepaid insurance		1,080
Prepaid real estate taxes (contra)		9,300
TOTAL ASSETS		$1,733,599
LIABILITIES:		
Notes payable		$ 270,000
Mortgage payable		90,508
Due to California Medical Association for:		
Amount received on surrender of life insurance policies	$ 24,114	
Cash surrender value of life insurance policies still in force (contra)	94,813	118,927
Accounts payable, including accrued interest		6,107
Accrued real estate taxes (contra)		9,300
Trust funds		54,186
Deferred rental income		885
TOTAL LIABILITIES		$ 549,913
NET ASSETS		$1,183,686
SOURCE OF NET ASSETS:		
Contributed	$882,916	
Excess of income over expenditures	300,770	
TOTAL		$1,183,686

See notes to financial statements.

TRUSTEES OF THE CALIFORNIA MEDICAL ASSOCIATION

Statement of Income and Expenditures for the Year Ended June 30, 1961

INCOME:		
Excess of property income over expenses (Schedule 1)		$ 11,310
Other:		
Interest on United States Treasury bonds	$28,025	
Interest on contract and notes	5,027	
Dividends	900	
Miscellaneous	21	33,973
TOTAL INCOME		$ 45,283
EXPENDITURES (other than property expense):		
Interest	$ 5,133	
Fees	1,715	
Insurance	160	
Other	60	
TOTAL EXPENDITURES		7,068
REMAINDER		$ 38,215
DEDUCT:		
Net premiums on life and retirement insurance policies	$16,145	
Provision for the retirement or other benefit of an employee of an affiliated organization	3,000	19,145
EXCESS OF INCOME OVER EXPENDITURES:		
CURRENT YEAR		$ 19,070
TOTAL AT BEGINNING OF YEAR		281,700
TOTAL AT END OF YEAR		$300,770

See notes to financial statements.

TRUSTEES OF THE CALIFORNIA MEDICAL ASSOCIATION

Schedule 1

Statement of Property Income and Expenses for the Year Ended June 30, 1961

INCOME FROM RENTALS:		
California Medical Association	$41,378	
Others	19,289	
TOTAL		$60,667
EXPENSES:		
Utilities	$ 4,770	
Janitor service and maintenance	5,864	
Repairs—Plumbing, electric, etc.	1,444	
Insurance	855	
Elevator inspection and service	1,166	
Supplies	1,093	
Equipment	459	
Sundry	272	
Total	$15,923	
Taxes	9,346	
Interest on mortgage	3,991	
Interest on borrowed money for purchase of property and making improvements thereon	10,029	
Total before depreciation	$39,289	
Depreciation	10,068	
TOTAL		49,357
EXCESS OF PROPERTY INCOME OVER EXPENSES		$11,310

TRUSTEES OF THE CALIFORNIA MEDICAL ASSOCIATION

NOTES TO FINANCIAL STATEMENTS, JUNE 30, 1961

NOTE 1: The Trustees of the California Medical Association, as a nonprofit corporation, owns all of the outstanding stock of the Pacific Magnetic Tape Equipment Co., which was formed for the purpose of merchandising magnetic tape equipment as an adjunct to the activities of the Audio-Digest Foundation, a wholly-owned subsidiary of the California Medical Association. An unaudited financial statement of the Pacific Magnetic Tape Equipment Co., as of June 30, 1961, reflects a net worth of $19,797.09 at that date.

NOTE 2: The portion of the Trust Funds applicable to the retirement or similar benefit to Mr. and Mrs. Ben H. Read, amounting to $39,000 at June 30, 1961, has not been segregated from other assets of the corporation as directed by Chapter XVII of the bylaws of the corporation which states: ". . . All assets of this fund shall be held separate and apart from all other assets and property of the corporation . . ."

NOTE 3: The Trustees of the California Medical Association is guarantor to the Crocker-Anglo National Bank for loans to a maximum amount of $20,000 for the California Commission for Accreditation of Nursing Homes and Related Facilities. There were no loans reported under this guaranty at June 30, 1961.

- Outstanding Guest Speakers
- General Scientific Meetings
- Basic Science Session
- Specialty Scientific Meetings
- Color Television
  Closed Circuit from Presbyterian Medical Center—Mornings, Monday to Wednesday
- Medical Motion Picture Symposia
  Daily, Afternoons and Evenings
- Scientific Exhibits • Technical Exhibits

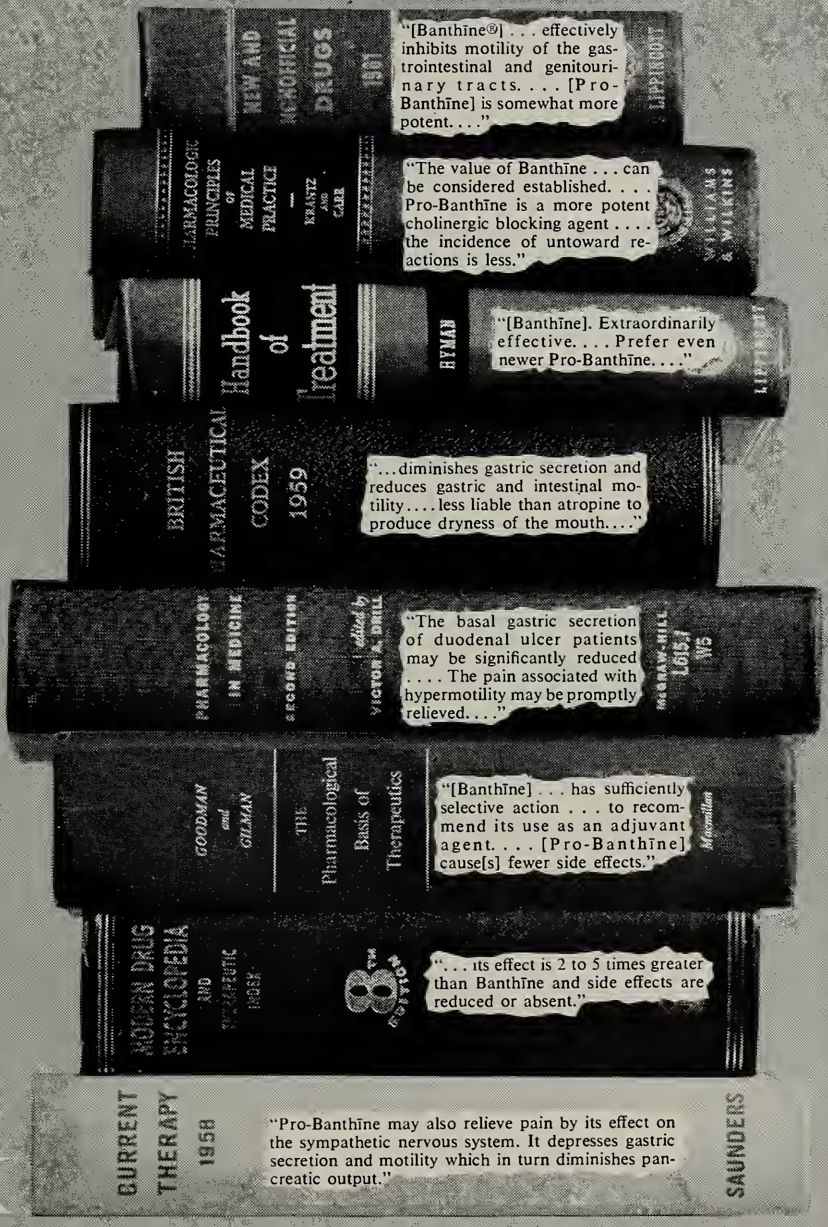
CALIFORNIA MEDICAL ASSOCIATION

1962 Annual Session

FAIRMONT HOTEL • SAN FRANCISCO *April 15 to 18*

- Presidents' Dinner Dance
  Sunday, April 15—Venetian Room
- House of Delegates
  (MARK HOPKINS HOTEL)
  Opening Session Saturday Evening, April 14
  Tuesday Afternoon, April 17, and Wednesday, April 18
- Registration Daily
  8:30 a.m. to 5:00 p.m. . . . . No Registration Fee

HOTEL ROOM RESERVATIONS SHOULD BE MADE ONLY THROUGH C.M.A. OFFICE IN SAN FRANCISCO. USE RESERVATION REQUEST FORM ON ADVERTISING PAGE 64


NEW AND NONOFFICIAL DRUGS 1961
LIPPINCOTT
PHARMACOLOGIC PRINCIPLES OF MEDICAL PRACTICE — KRANTZ AND CARR
WILLIAMS & WILKINS
Handbook of Treatment
HYMAN
LIPPINCOTT
BRITISH PHARMACEUTICAL CODEX 1959
PHARMACOLOGY IN MEDICINE SECOND EDITION edited by VICTOR A. DRILL
McGRAW-HILL L615.1 V5
GOODMAN and GILMAN
THE Pharmacological Basis of Therapeutics
Macmillan
MODERN DRUG ENCYCLOPEDIA AND THERAPEUTIC INDEX
8TH REVISION
CURRENT THERAPY 1958
SAUNDERS

"[Banthīne®] . . . effectively inhibits motility of the gastrointestinal and genitourinary tracts. . . . [Pro-Banthīne] is somewhat more potent. . . ."

"The value of Banthīne . . . can be considered established. . . . Pro-Banthīne is a more potent cholinergic blocking agent . . . . the incidence of untoward reactions is less."

"[Banthīne]. Extraordinarily effective. . . . Prefer even newer Pro-Banthīne. . . ."

". . . diminishes gastric secretion and reduces gastric and intestinal motility. . . . less liable than atropine to produce dryness of the mouth. . . ."

"The basal gastric secretion of duodenal ulcer patients may be significantly reduced . . . . The pain associated with hypermotility may be promptly relieved. . . ."

"[Banthīne] . . . has sufficiently selective action . . . to recommend its use as an adjuvant agent. . . . [Pro-Banthīne] cause[s] fewer side effects."

". . . its effect is 2 to 5 times greater than Banthīne and side effects are reduced or absent."

"Pro-Banthīne may also relieve pain by its effect on the sympathetic nervous system. It depresses gastric secretion and motility which in turn diminishes pancreatic output."

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Role of Antibody Suggested In Mental Illness

An organic theory of mental illness, in which antibodies act against constituents of the brain, has been offered by Dr. W. J. Fessel, San Francisco.

Natural antibodies are substances produced by the body to counteract invading foreign substances, a process termed autoimmunity.

Although the evidence is "admittedly slim," Dr. Fessel said his theory could explain some of the many biochemical abnormalities of the blood that have been discovered in the mentally ill.

"At the present stage of our knowledge there is some merit in a simple hypothesis, with which some of the known facts fit, and which is open to experimental testing in the laboratory," he said in the February *Archives of General Psychiatry*, published by the American Medical Association.

"This hypothesis would apply neither to all cases of psychosis nor to all of the biochemical abnormalities which have been found in psychoses."

Reviewing developments in the past 10 years, Dr. Fessel said there is a large body of scientific evidence showing that blood protein abnormalities occur in the mentally ill. The multiplicity of these abnormalities probably reflect several primary causes of mental disease as well as a number of secondary effects, he said.

The abnormalities include an elevation of certain globulins, a class of proteins which are largely antibodies, he said, and some studies have shown that protein substances can cause a behavioral disturbance in man.

Dr. Fessel said he himself recently confirmed the presence of a significant elevation of the class S19 macroglobulins in persons with so-called functional acute mental disturbances in a comparison with a group of unselected blood donors. The presence of these macroglobulins, which often have antibody-like activity, may imply an autoimmune factor in the chain of events leading to the mental disturbance, he said.

As to why antibodies would attack a person's own cerebral material, Dr. Fessel said certain components of the nervous system, because of their relatively late development before birth, might not be recognized by the body's immunity mechanism as "self" but would be reacted to as "foreign."

Further support for the autoimmune theory is found in investigations that have revealed an abnormal immunity response to various vaccines among mental patients, he said.

"The idea that autoimmunization is a factor in the genesis of some functional psychoses might be thought naive in view of all that is known about the importance of other, e.g., psychosocial and genetic, factors in their causation," Dr. Fessel concluded. "Yet such is the complexity of interplay between cause and effect that these various mechanisms may be interdependent, the final clinical expression being the delicately balanced resultant of them all."

Dr. Fessel is affiliated with Langley Porter Neuropsychiatric Institute, California Department of Mental Hygiene, and the department of psychiatry, University of California School of Medicine.

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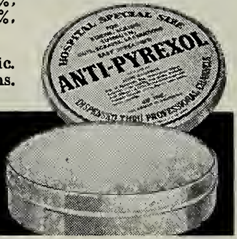

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Simple Technique of Salvage of Tissue Sections from Broken Microslides—R. G. Geil. Amer. J. Clin. Path.—Vol. 36:565 (Dec.) 1961.

A simple fixture made of glass slides and a section of glass tubing has been developed to coat the tissue section on a broken microslide with celloidin. The tissue section in the celloidin film can then be removed and remounted.

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New Drug Therapy Method Aids Tongue Cancer Case

A new method of drug administration—still in the experimental stage—has produced a favorable response in a patient with advanced cancer of the tongue.

The case was reported by Drs. Robert D. Sullivan, Boston, and Charles J. McPeak, New York City, in the January 27 *Journal of the American Medical Association.*

The cancer, which had not spread beyond the tongue, prevented the patient from eating solids, the physicians said.

When radiation therapy and other conventional forms of treatment failed, they said, regional administration of an anticancer drug was tried.

The drug, methotrexate, was injected into the carotid artery of the neck, which supplies the cancerous area, by means of a fine tube, they said. The drug was given continuously for five and one-half days, they said. To protect vulnerable areas of the body from toxic effects of the drug, an antidote was injected intramuscularly at six-hour intervals, they said.

By the fifth day "tumor regression was apparent," the authors reported. A second course of therapy was given later, they said, and six weeks after the start of this form of treatment "no evidence of a residual cancer was found."

Another cancer developed on the patient's tongue five months later and this was cleared up by the same method of treatment in 19 days, they said. Four months after the development of the second cancer, they said, the patient had remained free of cancer.

Significant tumor regression and occasional, sustained benefit may occur in patients with localized forms of cancer treated by this method of regional chemotherapy, the authors said. However, the collective experience of researchers in this area is too small to evaluate properly its practical application to the management of patients with advanced cancer, they said.

Because of frequent and serious complications, they said, general use of this type of therapy is "discouraged."

A SIMPLIFIED PROCEDURE FOR DETERMINATION OF LEAD IN BLOOD APPLICABLE IN A ROUTINE CLINICAL LABORATORY—E. Berman. Amer. J. Clin. Path.—Vol. 36:549 (Dec.) 1961.

A rapid method for the detection of lead in whole blood is described. Increasing the Dithizon concentrations as lead concentrations increased yielded almost complete recoveries. Correlations between clinical findings and lead levels found appeared satisfactory. Levels in 100 normal unexposed individuals were less than 20 mcg. per 100 ml. One hundred eighteen untreated children with a diagnosis of plumbism had levels between 42 and 310 mcg. per 100 ml. Calcium versenate interferes with lead recovery.

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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE *are acknowledged in this column. Selections will be made for more extensive review in the interest of readers as space permits.*

ARIEL—Essays on the Arts and the History and Philosophy of Medicine—Félix Martí-Ibanez, M.D., Editor-in-Chief of MD, the Medical Newsmagazine, New York, and former Professor and Director of the Department of the History of Medicine, New York Medical College, Flower and Fifth Avenue Hospitals. MD Publications, Inc., 30 East 60th Street, New York 22, N. Y., 1962. 292 pages. $6.50.

ATLAS OF CLINICAL ENDOCRINOLOGY—including text of diagnosis and treatment—SECOND EDITION—H. Lisser, A.B., M.D., Clinical Professor Emeritus of Medicine and Endocrinology, University of California School of Medicine, San Francisco, Calif., former President, The Endocrine Society, and Roberto F. Escamilla, A.B., M.D., Clinical Professor of Medicine, University of California School of Medicine, San Francisco, Civilian Consultant and Chief of Endocrine Clinic, Letterman Army Hospital, San Francisco. The C. V. Mosby Co., 3207 Washington Blvd., St. Louis 3, Mo., 1962. 489 pages, $23.00.

CARCINOMA OF THE CERVIX—John B. Graham, M.D., Chief Gynecologist, Roswell Park Memorial Institute, and Associate Professor of Gynecology, University of Buffalo Medical School; Luciano S. J. Sotto, M.D., Consultant in Gynecology, Philippine General Hospital, and Instructor in Gynecology, University of the Philippines College of Medicine; and Frank P. Paloucek, M.D., Attending Gynecologist, Roswell Park Memorial Institute, and Instructor in Gynecology, University of Buffalo Medical School. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1962. 487 pages, $14.00.

COMMON SENSE ABOUT PSYCHOANALYSIS—Rudolph Wittenberg. Doubleday & Company, Inc., 575 Madison Avenue, New York 22, N. Y., 1962. 216 pages. $3.95.

CONTROL OF THE MIND—Man and Civiligation—A symposium edited by Seymour M. Farber and Roger H. L. Wilson, University of California, San Francisco Medical Center. McGraw-Hill Paperback Series, McGraw-Hill Book Co., 330 W. 42nd Street, New York 36, N. Y., 1961. 340 pages. $2.95.

FUNDAMENTAL APPROACH TO SURGICAL PROBLEMS—Lester F. Williams, Jr., M.D., and Garnet F. Wynne, Jr., M.D. With an Introductory Chapter by Warner F. Bowers, M.S., M.D., Ph.D., Colonel, MC, USA (Retired). Charles C. Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Ill., 1962. 216 pages, $7.75.

IRRITATION AND COUNTERIRRITATION—A Hypothesis About the Autoamputative Property of the Nervous System; A Scientific Excursion into Theoretical Medicine—Adolphe D. Jonas, M.D. Vantage Press, Inc., 120 W. 31st Street, New York 1, N. Y., 1962. 368 pages. $7.50.

MEDICAL GENETICS 1958-1960—An Annotated Review—Victor A. McKusick, M.D., Professor of Medicine, The Johns Hopkins University School of Medicine, Baltimore, Md., and Contributors. The C. V. Mosby Company, St. Louis, Mo., 1961. 534 pages, $14.50.

THE MOLD OF MURDER—A Psychiatric Study of Homicide—Walter Bromberg, M.D., formerly Director, Psychiatric Clinic, Court of General Sessions, New York, N. Y., and Training Consultant, Department of Mental Hygiene, State of California. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1961. 230 pages. $4.75.

OPHTHALMIC PATHOLOGY—An Atlas and Textbook—SECOND EDITION—Edited by Michael J. Hogan, M.D., Professor and Chairman, Department of Ophthalmology, University of California School of Medicine, San Francisco; and Lorenz E. Zimmerman, M.D., Chief of the Ophthalmic Pathology Branch and Registrar of the Registry of Ophthalmic Pathology, The Armed Forces Institute of Pathology, Washington, D. C. Published under the Sponsorship of The American Academy of Ophthalmology and Otolaryngology and The Armed Forces Institute of Pathology. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1962. 797 pages. $30.00.

PHYSIOLOGY AND PATHOLOGY OF LEUKOCYTES, THE—edited by Herbert Braunsteiner, M.D., Department of Medicine, University of Vienna, Austria. American Edition Prepared and Revised by Dorothea Zucker-Franklin, M.D., Department of Hematology, Montefiore Hospital, New York. Grune & Stratton, Inc., 301 Park Avenue South, New York 16, N. Y., 1962. 293 pages, $15.00.

POSTPARTUM PSYCHIATRIC PROBLEMS—James Alexander Hamilton, Ph.D., M.D., Associate Clinical Professor of Psychiatry, Stanford University School of Medicine, Stanford, California, Chief of Service, Psychiatry, Saint Francis Memorial Hospital, San Francisco, California. The C. V. Mosby Company, 3207 Washington Boulevard, St. Louis 3, Mo., 1962. 156 pages. $6.85.

THE SCIENCE OF DREAMS—Edwin Diamond. Doubleday & Company, Inc., 575 Madison Avenue, New York 22, N. Y., 1962. 264 pages. $4.50.

TEXTBOOK OF ENDOCRINOLOGY — THIRD EDITION, Illustrated—Edited by Robert H. Williams, M.D., Chief, Endocrinology and Metabolism Division, and Physician-in-Chief, University Hospital; Executive Officer and Professor of Medicine, University of Washington Medical School, Seattle, Washington. With contributions by twenty-one authorities. W. B. Saunders Company, Philadelphia 5, Pa., 1962. 1204 pages. $21.00.

THALASSEMIA—A Survey of Some Aspects—By Robin M. Bannerman, M.A., D.M., M.R.C.P., Lecturer in Medicine, The Nuffield Department of Clinical Medicine, The Radcliffe Infirmary, Oxford, England. (Modern Medical Monographs—23—Editor in Chief: Irving S. Wright, M.D., Consulting Editor: Richard H. Orr, M.D.). Grune & Stratton, 381 Park Avenue South, New York 16, N. Y., 1962. 138 pages. $6.50.

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By HENRY A. SKINNER. 2nd ed. 447 pages. Illustrated. (1961) Williams & Wilkins. $12.50.

The etymology of medical terms makes what will be for many an enthralling volume. The second edition includes 1500 revisions, with notes now on 4000 medical terms. In addition to discussions of the origins of words, bibliographical material, and an appendix listing general sources are included. The volume is well printed and bound and is typographically pleasing. Aside from its value as a reference work of high order, the volume read at random can give much pleasure.

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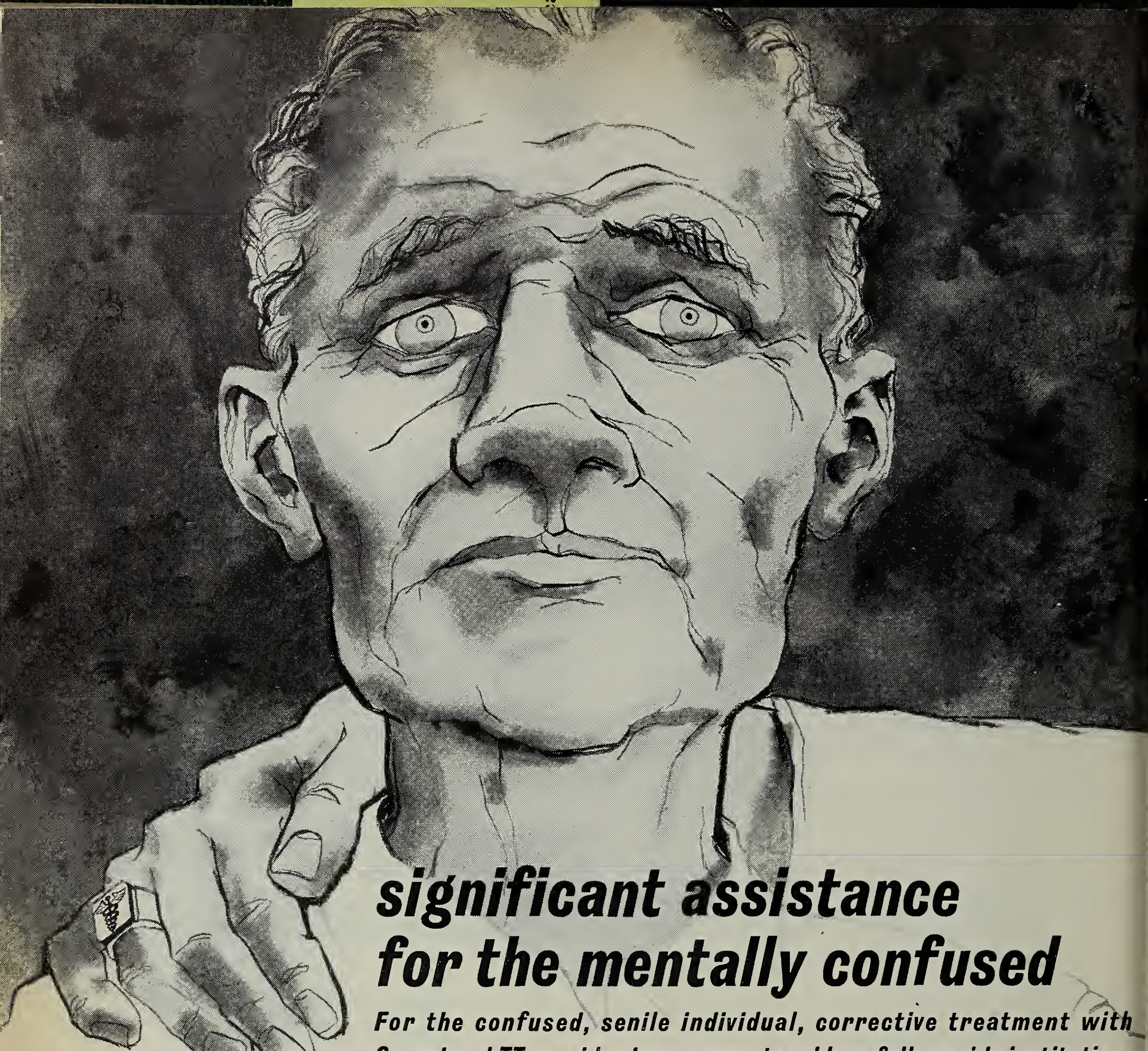

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1. Curran, T. R., and Phelps, D. K.: Am. Pract. & Dig. Treat., 11:617, 1960; 2. Connolly, R.: West Virginia M.J.: 56.263-265, August 1960; 3. Levy, S. J.: J.A.M.A. 153: 1260, 1953.

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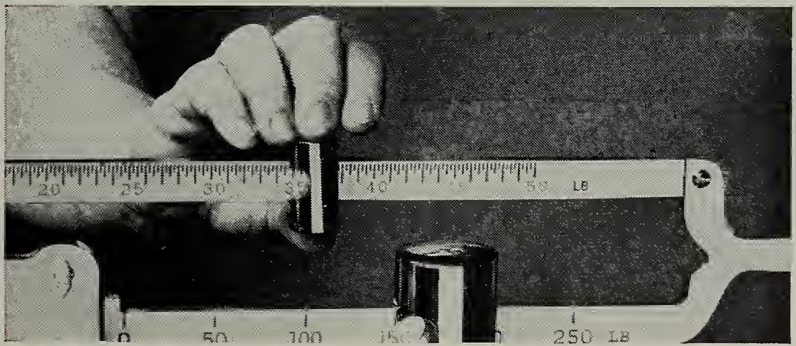

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Yes, There Is Such a Thing As 'Cigarette Cough'

There is such a thing as "cigarette cough," three physicians said in the January *Archives of Environmental Health*, published by the American Medical Association.

"However, the similarity in cough patterns between cigar and pipe smokers suggests that tobacco smoke in general, rather than cigarette smoke alone, causes cough," Drs. Katharine R. Boucot, David A. Cooper and William Weiss, Philadelphia, said.

"Bronchial irritation seems to be proportionate to the volume of smoke bathing the tracheobronchial tree. The higher proportion of inhalers among cigarette smokers is probably responsible for the impression that cigarette smoke is more irritating than that from cigars or pipes."

Preliminary results of a study of chronic cough among 6,137 men 45 years of age or older also showed:

—The prevalence of cough among older male smokers was 31.5 per cent, compared with 13 per cent for the nonsmokers.

—Cough increased with increasing age to a rate of 28.6 per cent for nonsmokers and 39.4 per cent for smokers. Among men 45 to 54 years of age, only 9.9 per cent of nonsmokers coughed contrasted to 27.7 per cent of smokers.

—Cough rates increased with increasing amounts and duration of smoking for all smoking categories —cigarettes, cigars and pipes.

Among men who had smoked 20 to 39 years, the chronic cough rate was 27.9 per cent for smokers—twice the 13 per cent for nonsmokers, the researchers said. Chronic cough was even more prevalent among smokers of more than 40 years' duration, among whom cough was reported by 39.8 per cent, three times the rate for nonsmokers, they said. In this group, the rate of cough rose to 51.6 per cent among heavy cigarette smokers, they said. A heavy smoker was defined as one who smoked more than one pack a day.

The probability that chronic cough is a factor in the development of emphysema, a serious lung condition affecting an estimated 10 million persons in the United States, has enhanced the importance of exploring the association between smoking and cough, the physicians said.

"Obviously, there are factors in the causation of chronic cough other than tobacco alone," they said. "The increase in cough with increasing age may be due to such factors as air pollution, inhalation of toxic materials at work, repeated infections, or the process of aging, per se, in which there seems to be a general drying of secretions, a loss of tissue elasticity, etc.—all of which may . . . favor cough. . . ."

Drs. Boucot and Weiss are affiliated with Woman's Medical College of Pennsylvania and Dr. Cooper with the University of Pennsylvania. Dr. Boucot is chief editor, *Archives of Environmental Health.*

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Weight Training Wholesome If Sensible, Supervised

Training in lifting weights provides a wholesome activity for youngsters when practiced sensibly under good supervision, according to the Committee on Medical Aspects of Sports of the American Medical Association.

"There is no justification for weight lifting devoted to the development of muscles for the sake of muscles alone," a statement in the January 27 *Journal of the American Medical Association* said.

"Weight training, as it is coming to be known, is distinguished from weight lifting in that it is developmental or rehabilitative in nature rather than competitive in terms of the poundage that can be lifted in various standardized lifts.

"Weight training is successfully used in physical education to strengthen underdeveloped persons, in physical therapy to aid recovery following injuries and operations, and for the conditioning of athletes."

As with any vigorous physical activity, a medical examination is a prerequisite, the committee said, and periodic medical reevaluation at appropriate intervals is also recommended.

Have you made your reservation for the 1962 Annual Session? See details on Pages 64 and 74.

Newborn Infants Respond To Immunization

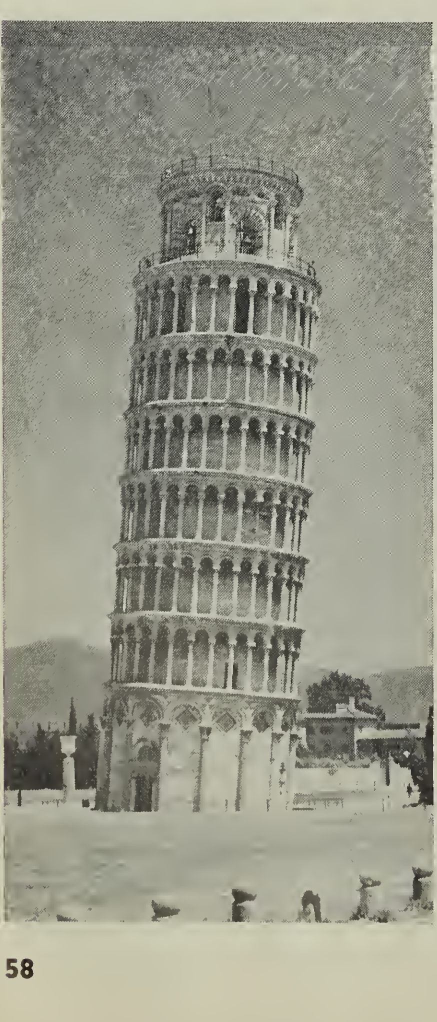
Proof that babies less than a week old can profit from artificial immunization was reported today by three University of Wisconsin researchers.

Antibodies that counteract typhoid fever and tetanus were introduced into the stomachs of seven babies from 12 hours to five days old, John C. Leissring, M.S., John W. Anderson, Ph.D., and David W. Smith, M.D., Madison, Wis., said. In every baby, they said, a rise was found in the number of these antibodies circulating in the blood.

This rise indicated that antibodies could be absorbed from the stomach into the blood stream of very young infants, a subject of conflicting reports for the past 30 years, the authors write in the February *American Journal of Diseases of Children*, published by the American Medical Association.

The antibodies were detected by a highly sensitive method of blood analysis, used in this type of study for the first time, they said. The test is believed to detect incompletely formed antibodies in addition to complete antibodies, they said.

It is possible, the authors said, that even small amounts of antibody given soon after birth could prolong and enhance the immunity passed on to the infant by the mother.



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1. *Methyl-Testerone-Thyroid in the Treatment of Impotence,* A. S. Titeff *(Prepub. Report).*
2. *Thyroid-Androgen Relations,* L. Hellman, et al., *The Jrl. of Clin. Endocrinology and Metabolism, August 1959.*

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Bloodless Brain Surgery Topic at A.M.A. Meeting

A bloodless form of brain surgery that relieves once-hopeless cases of tremor and rigidity will be described at the 111th annual meeting of the American Medical Association in Chicago next June.

Dr. Irving S. Cooper, director of the department of neurologic surgery, St. Barnabas Hospital for Chronic Diseases, New York City, will give physicians a summary of his 10-year investigation, comprising 2,000 consecutive cases.

He will document his results by disease, showing, for example, that it is now possible to abolish parkinsonian tremor and rigidity in properly selected patients with better than an 80 per cent chance of lasting success and with a risk of less than 1 per cent.

Dr. Cooper's technique, recently modified, utilizes freezing to minus 200 degrees centigrade as a surgical tool instead of an ordinary scalpel.

Using liquid nitrogen delivered with an insulated cannula, he freezes small areas deep within the brain to stop permanently the tremor and rigidity associated with a number of diseases, the causes of which are unknown.

Dr. Cooper, who is also connected with New York University Medical Center, will appear on the program, sponsored by the Section on Nervous and Mental Diseases of the A.M.A. Council on Scientific Assembly, Tuesday morning, June 26, at McCormick Place. In addition to his lecture, he will show a 15-minute movie of patients both before and after surgery. Some of these patients, who underwent this type of surgery as far back as five and seven years ago, will be introduced to the doctor audience.

Dr. John E. Adams, San Francisco, secretary of the A.M.A. Section on Nervous and Mental Diseases, said "Dr. Cooper has been one of the pioneers in this particular field and his promising results so far raise the possibility of using this cryogenic method for other diseases of the brain, such as tumors, both malignant and benign, multiple sclerosis and psychosurgery."

Dr. Cooper's lecture and motion pictures will review his surgical results in the following diseases:

—Parkinsonism—A disease once known as "shaking palsy." It is accompanied by muscle rigidity and uncontrollable shaking or trembling.

—Dystonia—A rare disease leading to grotesque distortion of posture, produced by steady muscular rigidity, which in the beginning is a parkinsonian type but becomes more intense and unyielding.

—Multiple Sclerosis—A disease of the central nervous system which causes loss of vision, weakness of limbs, awkwardness and clumsiness of movement.

—Cerebellar tremor—A disturbance arising in the cerebellum, the second largest single section of the brain. It causes spastic, disjointed movements and lack of muscular coordination.

(Continued on Page 26)

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Air Pollution Menace Termed Critical

Air pollution in the United States has reached a "critical" point, according to an article in the March *Today's Health* magazine, published by the American Medical Association.

"More than 10,000 . . . communities across the land are affected by air pollution—the mixture of dirt and chemicals in the air spread forth from incinerators, our factories, our asphalt and tar roads, our automobile exhausts, and many other sources," the article said.

"Whether it takes the form of Los Angeles' smog (smoke-fog), New York's smaze (smoke-haze) or El Paso's smust (smoke-dust), this aerial garbage is becoming more and more widespread. So serious is the menace of growing air pollution that authorities are saying that the situation is critical—that America will have to step up its air pollution program in order to save the health—if not the lives—of its citizens."

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Among the participants will be Sir Julian Huxley and James Sargant, F.R.C.P., both of London, England; J. Collard, M.D., University of Liege, Belgium; and a host of other eminent scientists from the United States.

Subjects will vary from "Differences in Drug Response among Different Ethnic Groups" to "Memory Transfer via Cannibalism in Flatworms."

Plan now to attend this symposium, which will include a cocktail party and a luncheon. Definitive programs and invitations will be available in early April. Mark the dates on your calendar now.

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In 1960, the article pointed out, states spent only $1,600,000 to control air pollution, with California alone accounting for about half of the total.

Pressure from the public has led some cities, such as Pittsburgh and Los Angeles, to clean up their polluted air, it said. However, the public has tended to be apathetic until the consequences became serious, such as the asthma epidemic in New Orleans in 1960 which affected 1,500 persons and the 1948 Donora, Pa., episode in which 5,910 persons became ill and 20 died, it said.

A follow-up study of the Donora residents showed that those affected by the pollution subsequently had more sickness and a higher death rate than their unaffected neighbors, it said.

The chemical revolution has brought about what is termed "invisible air pollution," the article said. Chemical gases, fumes, and other invisible pollutants like carbon monoxide have become a form of airborne poison consisting of a number of dangerous chemicals, it said.

The U. S. Public Health Service (PHS), through 236 air-sampling stations, has discovered that every city has its own peculiar brand of air pollution, partly determined by the impurities released by local industries, the article said.

But industry cannot be blamed for all the aerial filth, it said. Homeowners and autos produce roughly one-half of the pollution, it said.

In Los Angeles, for example, incinerators caused more than 65 per cent of the air pollutants before they were banned and auto exhaust now is the No. 1 contributor to the city's well-known smog, it said.

Studies have shown that products of partial combustion of gasoline and, to some lesser degree, evaporation from vents—the crankcase, carburetor, and fuel tank—are responsible for one of the major headaches in air pollution, the article continued. Among these chemical troublemakers are the hydrocarbons which are fractions of gasoline unburned or partially unburned because of incomplete fuel combustion in the engine, it said. Research has shown that when the sun shines on these hydrocarbons, reactions result which produce irritants like ozone, a dangerous gas, it said.

"Experts believe that smog of the Los Angeles variety—in which auto exhausts play a villainous role—is spreading, becoming more and more severe in parts of the country," the article said.

The PHS has said that major exhaust problems exist in the Chicago, Buffalo and New York areas, it said.

So-called blowby devices to stop exhaust pollu-

(Continued on Page 28)

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Blood Group Linked to Rheumatic Fever

A statistical association has been found between persons of a particular blood type and rheumatic fever, an article in the February 17 *Journal of the American Medical Association* said.

Drs. Joseph A. Buckwalter and Gerald V. Tweed, Iowa City, Iowa, reported findings that indicated persons of NN blood type, a subtype of the MN blood group, had an "increased liability" to the disease.

Previous investigations had failed to turn up any convincing evidence of an association of MN blood groups to disease, they said.

An increased incidence of rheumatic fever also was found among persons with one subtype (R^2r) of the Rh blood group, they said.

The results of a four and one-half year study also justify the conclusion that there is an association between Rh blood groups and stomach cancer, the authors said.

The Rh blood-group effect in stomach cancer "seems to be a very strong one, since it is apparent in the relatively small group of 170 patients," they said. "However," they added, "the nature of the association is far from clear."

The incidence of stomach cancer was reduced significantly in persons with two subtypes (R^2r, R^1R^1) of the Rh blood group but increased in persons with a third subtype (R^1R^2), they said.

Statistically significant evidence of a tendency of persons of the R^2r blood group to develop duodenal and stomach ulcers also was found, they said.

The study was conducted among patients at the University of Iowa or the Iowa City Veterans Administration Hospitals. Some 3,641 patients with either ulcers, stomach cancer, rheumatic fever of diabetes were compared with 2,186 disease-free volunteers.

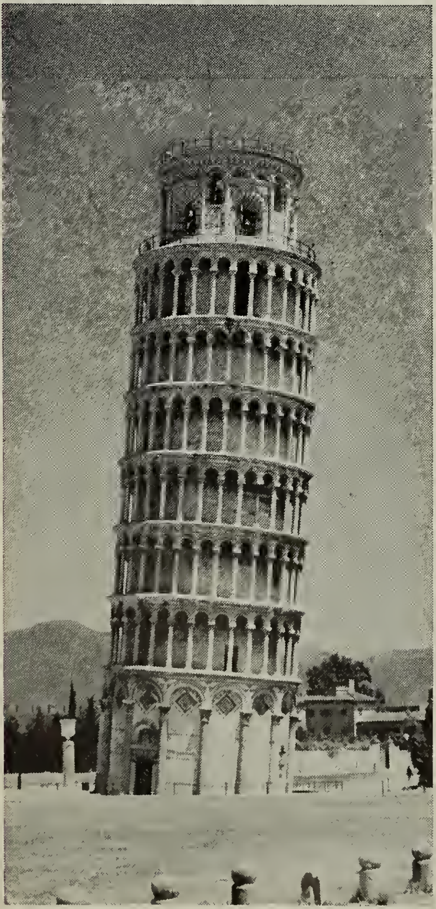
Other studies have indicated that associations exist between certain diseases and the ABO blood groups, the third large classification of blood types.

"Until the nature of the associations between the blood groups and disease is better understood, it is impossible to assess with confidence the relevance and importance of the findings of these investigations to current [scientific] concepts . . . or their implications in clinical medicine," the authors said.

Drs. Buckwalter and Tweed are affiliated with the department of surgery, College of Medicine, University of Iowa.

HUMAN SYNOVIAL-CELL CULTURE: USE OF NEW METHOD IN STUDY OF RHEUMATOID ARTHRITIS—J. R. E. Fraser and K. J. Catt. Lancet—Vol. 2:1437 (Dec. 30) 1961.

A simple method of dispersing synovial cells was developed for tissue culture, biochemical and immunologic study of joint disease. Cell culture by this technique is briefly described, with a preliminary account of the toxic effects of rheumatoid serums on human synovial-cell cultures.



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1. *Methyl-Testerone-Thyroid in the Treatment of Impotence*, A. S. Titeff *(Prepub. Report).*
2. *Thyroid-Androgen Relations*, L. Hellman, et al., *The Jrl. of Clin. Endocrinology and Metabolism, August 1959.*

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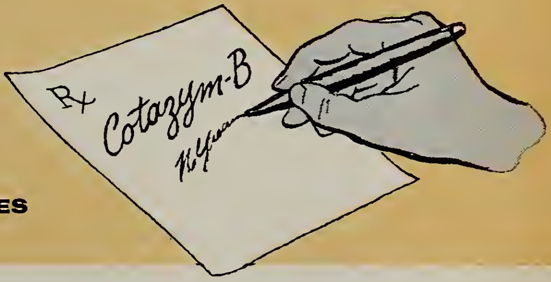

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REFERENCES: 1. Best, E. B., Hightower, N. C., Jr., Williams, B. H., and Carobasi, R. J.: South. M.J. 53:1091, 1960. 2. Analytical Control Laboratories, Organon Inc. 3. Best, E. B., et al.: Symposium at West Orange, N. J., May 11, 1960. 4. Thompson, K. W., and Price, R. T.: Scientific Exhibit Section, A.M.A., Atlantic City, N. J., June 8-12, 1959. 5. Weinstein, J. J.: Discussion in Keifer, E. D., Am. J. Gastro. 35:353, 1961. 6. Ruffin, J. M., McBee, J. W., and Davis, T. D.: Chicago Medicine, Vol. 64, No. 2, June, 1961. 7. Berkowitz, D., and Silk, R.: Scientific Exhibit Section, A.M.A., New York, June 25-30, 1961. 8. Berkowitz, D., and Glassman, S.: N. Y. St. J. Med. 62:58, 1962.

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Obesity Related to Eight Conditions

There is a "vast accumulation of evidence that excess weight is not good for humans," according to Dr. William Bolton, associate editor of the American Medical Association's *Today's Health* magazine.

Medical surveys have shown that eight conditions are significantly related to obesity, he said. They are coronary artery disease, diabetes, high blood pressure, disorders of the liver and gall bladder. greater risk in any operative procedure, unexpected formation of blood clots, deterioration of blood vessels in other parts of the body besides the heart, and arthritis, he said.

"Since some of these conditions contribute to certain of the leading causes of death in this country, their association with obesity would appear to be important," he said.

Bloodless Brain Surgery Topic at A.M.A. Meeting

(Continued from Page 16)

—Chorea—A disease characterized by symptoms of abnormal spontaneous muscular movements that tend to be purposeless, irregular, abrupt, quick, brief and unsustained. The disease is sometimes termed "St. Vitus dance."

—Hemiballismus—A disease that causes twitching and jerking movements, involving only one side of the body.

In a recently prepared abstract, Dr. Cooper said that his procedure carries such a small risk that it is possible to apply the technique in very early cases as well as in far advanced cases.

By use of this method, reversible blocking of nerve conduction can be produced in a conscious and cooperative patient.

The cannula consists of an inner tube, an outer tube, and a tip made of hard stainless steel. It is insulated with a wrapping of electrically conductive copper wire, which keeps it at body temperature. Liquid nitrogen, fed through the inner tube at a pressure of 22 pounds per square inch above atmospheric pressure, is delivered to the tip. As the temperature of the liquid nitrogen rises at the hollow tip, the nitrogen vaporizes and escapes through the outer tube, and is removed by vacuum suction.

Reversible cooling at zero centigrade for 30 seconds allows sufficient time for reaction testing in some brain areas. Freezing for three to five minutes produces a permanent lesion that completely abolishes all tremor and rigidity.

GENERAL ANESTHESIA WITH MINIMAL EQUIPMENT—J. W. Pearson and P. Safar. Anesth. Analg.—Vol. 40:664 (Nov.-Dec.) 1961.

A plea is made for the teaching of the use of simple apparatus for general anesthesia in residency programs in this country. A review of several commercial apparatus available is presented. A simple homemade apparatus is described, and its characteristics are investigated.

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Report New Therapy for High Blood Pressure

A new type of drug was reported recently to have effectively reduced high blood pressure in 31 of 33 severe cases.

Alpha-methyl DOPA (dihydroxyphenylalaline) was found to be "a palatable oral medication useful in treating patients with severe hypertensive disease," Drs. Paul J. Cannon, Robert T. Whitlock, Marielena Angers and John H. Laragh, New York City, and R. Curtis Morris, San Francisco, said in the March 31 *Journal of the American Medical Association.*

The mode of action of the drug has not as yet been fully defined, the authors said. However, it is believed to affect one of the hormones secreted by the adrenal glands, norepinephrine, which has been linked to the development of high blood pressure, they said.

The drug is a derivative of DOPA, one of the body's naturally occurring amino acids involved in the chemical formation of norepinephrine.

Unlike some drugs used to lower blood pressure, they said, alpha-methyl DOPA produced few side effects. The drug also was found to lower blood pressure in patients with kidney damage without apparently producing further kidney deterioration, they said.

Due to its potency and rapid action, the authors said, the drug was useful in the emergency treatment of sudden, acute episodes of high blood pressure involving the brain (hypertensive encephalopathy).

The study did not indicate whether the drug altered the natural course of the disorder because it did not include a comparison of treated and untreated patients, they said. However, they said, the findings warrant further investigation.

Air Pollution Menace Termed Critical

(Continued from Page 22)

tants from getting into the air are only a partial solution, the article said. Present devices can only control "up to 30 per cent of the total pollution from a vehicle," it said. A number of companies are reported to be working on more effective devices, it said, but none is ready for mass production.

The lack of action against some industrial sources of air pollution at the local level can be traced to an unjustified fear of losing the industry, the article said.

"One of the myths of air pollution is that an offending establishment will close up shop or move if threatened with enforcement," it said. "Surely, the record shows that the threat to get out of business or the community has been raised often, but rarely —if ever—carried out.

"More typically, industry has preferred to use engineering devices to root out its air contaminants. Sometimes it has done this voluntarily—most often because of a vigorous enforcement policy."

The article was written by Jack Kaplan.

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REFERENCES AND REVIEWS

Hernia Repair with Marlex Mesh—F. C. Usher. Arch. Surg.—Vol. 84:325 (March) 1962.

Five hundred and forty-one hernias repaired with Marlex mesh are reviewed. The incidence of wound complications was 15 per cent for incisional hernias and 4.3 per cent for inguinal hernias. The recurrence rate, based on 240 patients with a follow-up of one year or more, was 10.2 per cent for the incisional hernias and 5.9 per cent for inguinal hernias. The authors believe that the results of this study justify the continued use of Marlex mesh in the repair of large and difficult hernias.

* * *

Clinical Experiences with a Series of Smith's Fractures—R. H. Flandreau, R. M. Sweeney, and W. D. O'Sullivan. Arch. Surg.—Vol. 84:288 (March) 1962.

The results in a series of Smith's fractures were reviewed after using a recent innovation in reduction and immobilization which employs full supination and only a slight dorsiflexion of the wrist. Maintenance of reduction was more satisfactory with the use of this position. Mechanisms of injury and a classification of the varieties of Smith's fractures were noted.

* * *

Family Group Intake by a Child Guidance Clinic Team—E. A. Tyler, A. Truumaa, and P. Henshaw. Arch. Gen. Psychiat.—Vol. 6:214 (March) 1962.

This study describes a technique which substitutes information from a family unit for single information, and a 3-discipline team for a single interviewer at initial clinic contact. Impressions based on 100 cases seen from September, 1959, to December, 1960, are reported, concerning influence of the technique on diagnostic studies, teamwork, teaching, patient's attitudes and team members' feelings.

* * *

Chronic Paronychia: Review of 70 Cases—R. H. Curry and J. C. Mitchell. Canad. Ass. Med. J.—Vol. 85:1291 (Dec. 9) 1961.

Of 69 women with paronychia, 43 were housewives. The highest incidence was in the fourth decade age-group with the right ring and middle fingers most often affected. Formation of subcuticular pocket was pathognomonic. This condition is considered a disease of home and occupational wet work. Etiological factors are assessed. Since the source of primary and secondary infection of the nail fold has been shown to be fetal, sexual difference is considered to be due to female manicuring as principal cause of chemical and physical trauma to the nail folds. A therapeutic regimen is outlined.

* * *

Infrared Thermometry in Diagnosis of Breast Disease K. L. Williams, F. L. Williams, and R. S. Handley. Lancet—Vol. 2:1378 (Dec. 23) 1961.

An infrared sensitive device was used to measure the skin temperature over lumps in the breast. One hundred patients with breast lumps were investigated and the great majority with carcinomas (54 of 57 cases), half of those with fibroadenomas and all with abscesses were found to show a rise of 1° C. (1.8° F.) or more, in the overlying skin. Cysts, adenosis, fat necrosis, and duct stasis showed rises of less than 1° C. or were actually cooler. Over carcinomas, rises of up to 5° C. (9° F.) were found. The hotter the carcinoma, the worse the prognosis. Experiments

(Continued on Page 41)

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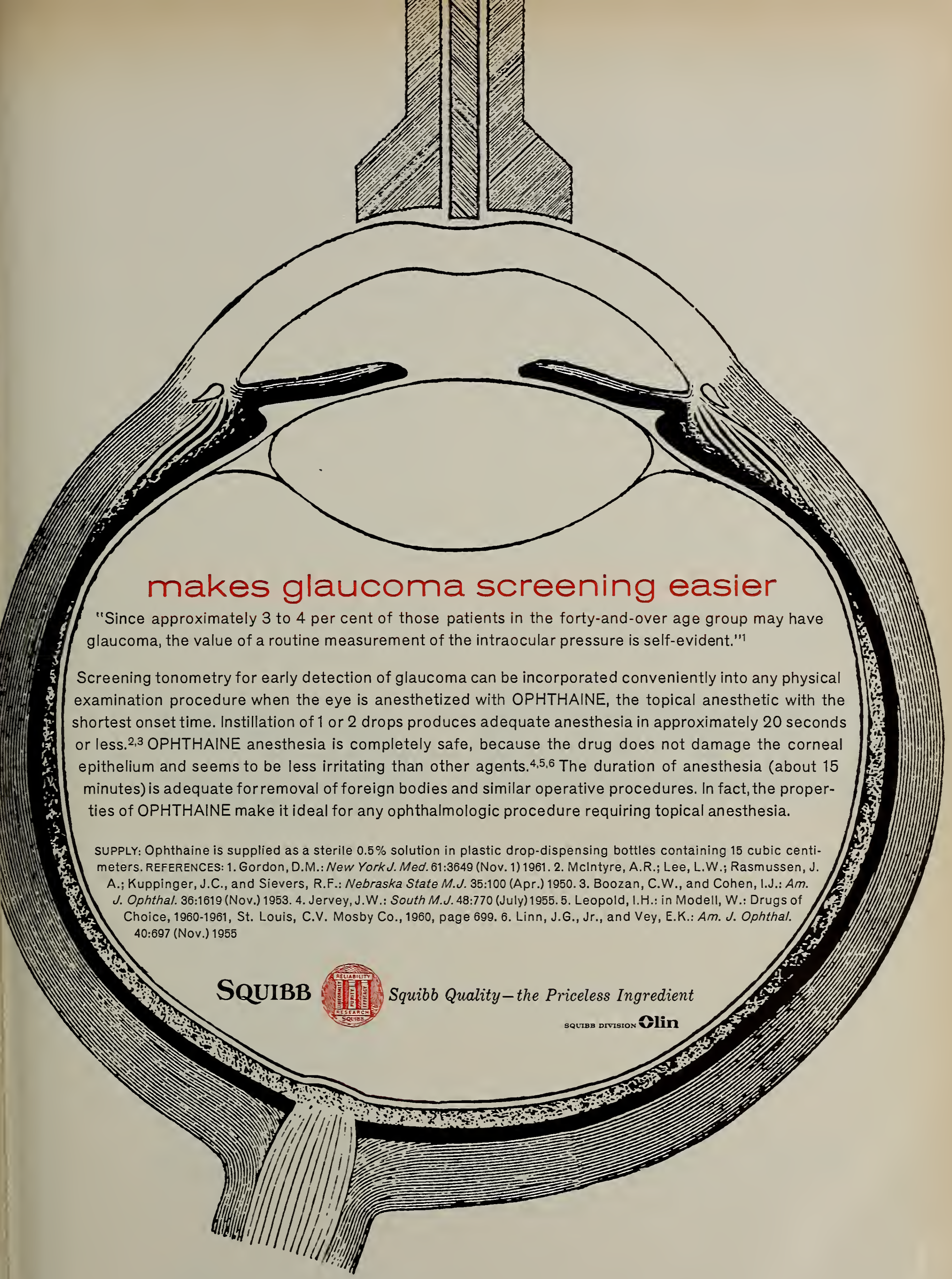

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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE *are acknowledged in this column. Selections will be made for more extensive review in the interest of readers as space permits.*

AN ATLAS OF POSITIVE CONTRAST MYELOGRAPHY—James Bull, M.A., M.D., F.R.C.P., F.F.R., Radiologist, National Hospital for Nervous Diseases, and St. George's Hospital, London, and Wylie McKissock, O.B.E., M.S., F.R.C.S., Neurological Surgeon, National Hospital for Nervous Diseases, and St. George's Hospital and Hospital for Sick Children. With the cooperation of William H. Bloom, M.D., K. York Chynn, M.D., and D. Gordon Potts, M.D. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1962. 147 pages, $9.50.

CLINICAL IMMUNOLOGY AND ALLERGY—Leo H. Criep, M.D., Clinical Associate Professor of Medicine, School of Medicine, University of Pittsburgh; Chief of Allergy, Montefiore Hospital; Area Consultant and Physician in Charge, Central Allergy Laboratory, Veterans Administration; Medical Staff, Presbyterian-University, Magee and Passavant Hospitals. Grune & Stratton, Inc., 381 Park Ave., South, New York 16, N. Y., 1962. 582 pages, $18.75.

CURRENT DIAGNOSIS AND TREATMENT 1962—Henry Brainerd, M.D., Professor of Medicine and Chairman, Department of Medicine, University of California School of Medicine (San Francisco), and Physician-in-Chief, University of California Hospitals (San Francisco); Sheldon Margen, M.D., Research Biologist, Department of Biochemistry, University of California School of Medicine (San Francisco), and Milton J. Chatton, M.D., Assistant Clinical Professor of Medicine, University of California (San Francisco) and Stanford University (Palo Alto) Schools of Medicine, and Geriatric Consultant, Palo Alto Medical Clinic (and Associate Authors). Lange Medical Publications, Los Altos, Calif., 1962. 758 pages, $8.50.

CURRENT THERAPY—1962—Latest Approved Methods of Treatment for the Practicing Physician—Edited by Howard F. Conn, M.D. W. B. Saunders Company, Philadelphia, Pa., 1962. 790 pages, $12.50.

DRUGS OF CHOICE—1962-1963—Walter Modell, M.D., Editor, Director Clinical Pharmacology, and Associate Professor of Pharmacology, Cornell University Medical College, New York, N. Y.; Attending Physician, Veterans Administration Hospital, Montrose, N. Y. The C. V. Mosby Company, St. Louis, Mo., 1962. 941 pages, $14.50.

ERRANT WAYS OF HUMAN SOCIETY—Julius Bauer, M.D. Vantage Press, Inc., 120 W. 31 Street, New York 1, N. Y., 1962. 162 pages, $3.00.

FIRST INTERNATIONAL CONFERENCE ON CONGENITAL MALFORMATIONS—Papers and Discussions Presented at the First International Conference on Congenital Malformations, London, England, July 18-22, 1960. Compiled and Edited for The International Medical Congress, Ltd. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pa., 1962. 314 pages, $7.50.

GENERAL PATHOLOGY—Third Edition—Based on Lectures delivered at the Sir William Dunn School of Pathology, University of Oxford. Edited by Sir Howard Florey, Professor of Pathology. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1962. 1104 pages, $22.00.

HIGHER CEREBRAL FUNCTIONS AND THEIR CLINICAL DISORDERS—The Organic Basis of Psychology and Psychiatry—Benno Schlesinger, M.D., Chief, Neurosurgical Division, Beth Israel Hospital; Associate Neurosurgeon, The Mount Sinai Hospital; Consulting Neuropsychiatrist, Elmhurst General Hospital, New York, N. Y. Preface by I. S. Wechsler, M.D., Professor of Neurology, Columbia University; Consulting Neurologist, The Mount Sinai Hospital, New York, N. Y. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1962. 560 pages, $14.75.

(Continued on Page 33)

NEW BOOK

PEDIATRICS

By L. EMMETT HOLT, JR., M.D., RUSTIN McINTOSH, M.D., and HENRY L. BARNETT, M.D. 13th edition. About 1390 pages. 414 illustrations. (1962) Appleton-Century. About $18.00.

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THE MECHANISM OF ACTION OF WATER-SOLUBLE VITAMINS—Ciba Foundation Study Group No. 11—A. V. S. De Reuck, M.Sc., D.I.C., A.R.C.S., and Maeve O'Connor, B.A., editors for the Ciba Foundation. Little, Brown & Company, Boston, Mass., 1962. 120 pages, $2.50.

MEETING THE CHILDBEARING NEEDS OF FAMILIES IN A CHANGING WORLD—Report of a Work Conference sponsored by Maternity Center Association. Copies of this report may be obtained from the Association, 48 East 92nd St., New York 28, N. Y., $1.00 per Copy. Paperback edition, 115 pages.

MILIEU THERAPY IN SCHIZOPHRENIA—Lieutenant Colonel Kenneth L. Artiss, MC. Foreword by Dexter M. Bullard, M.D. Introduction by David McK. Rioch, M.D. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1962. 169 pages, $6.00.

MODERN CONCEPTS OF HOSPITAL ADMINISTRATION—Edited by Joseph Karlton Owen, B.S., M.S., Ph.D., Specialist in Hospital Administration, Louis Block & Associates, Inc., Silver Spring, Maryland; Lt. Col., M.S.C. (Reserve) U. S. Army. Formerly Administrator, District of Columbia General Hospital: Assistant Director of Mental Hospitals, Commonwealth of Virginia: Professor of Hospital Administration and Director, School of Hospital Administration, Medical College of Virginia. With the Coordinative Assistance of Robert K. Eisleben, B.A., M.A., Assistant Administrator of Little Company of Mary Hospital. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1962. 823 pages, $16.00.

PHARMACOLOGY AND THERAPEUTICS—A Textbook for Students and Practitioners of Medicine and Its Allied Professions—Fifth Edition, Revised and Enlarged, 236 Illustrations with 2 in Color—Arthur Grollman, Ph.D., M.D., F.A.C.P., Lecturer in Pharmacology and Toxicology, The Medical Branch, and Professor and Chairman of the Department of Experimental Medicine, The Southwestern Medical School, The University of Texas. Lea & Febiger, 600 Washington Square, Philadelphia 6, Pa., 1962. 1131 pages, $12.50.

RELIGIOUS ASPECTS OF HYPNOSIS—William J. Bryan, Jr., M.D., Fellow, Past President and Executive Director, The American Institute of Hypnosis, Los Angeles, California. With Forewords by S. J. Van Pelt, M.B., B.S., President of the British Society of Medical Hypnotists, London, England, and Rev. H. R. Burnett, Pastor, First Foursquare Church, Compton, Calif. Charles C. Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Ill., 1962. 75 pages, $4.00.

RENAL FUNCTION—W. J. O'Connor, M.A., M.D., Senior Lecturer in Physiology, University of Leeds. Williams & Wilkins Co., Baltimore 2, Maryland, exclusive U. S. agents, 1962. 247 pages, $7.50.

YEAR BOOK OF DRUG THERAPY, THE (1961-1962 Year Book Series)—Edited by Harry Beckman, M.D., Chairman, Departments of Pharmacology, Marquette University Schools of Medicine and Dentistry; Consulting Physician, Milwaukee County General and Columbia Hospitals, Milwaukee, Wisconsin. Year Book Medical Publishers, Inc., 200 East Illinois St., Chicago 11, Ill., 1962. 597 pages, $8.50.

Closed Chest Cardiac Massage—P. Safar. Anesth. Analg.—Vol. 40:609 (Nov.-Dec.) 1961.

Closed chest cardiac massage may circulate blood in most patients with sudden cessation of circulation. Rhythmic sternal pressure alone cannot be relied upon to ventilate the lungs. (Studies were performed on patients with cardiac arrest and on curarized adults.) Therefore, sternal pressure must be combined with intermittent positive pressure ventilation, preferably synchronized. One of the recommended techniques consists of one operator inflating the lungs and a second operator following each lung inflation with four sternal compressions at one-second intervals. The following controversial points are discussed: the efficacy and trauma of closed chest vs. open chest cardiac massage; the teaching of the closed method to laymen: the application of the external defibrillator and intracardiac epinephrine without electrocardiographic diagnosis.

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Aerosol Therapy in Bronchopulmonary Disease

A Critical Evaluation

ARTHUR M. OLSEN, *M.D.*, Rochester, Minnesota

- Aerosol therapy has three principal objectives: Mobilization of bronchial secretions, relief of bronchospasm and topical chemotherapy. It has become an important tool in the treatment of bronchopulmonary diseases. The equipment for inhalation therapy, however, should be adequate. Both large-capacity and small-capacity nebulizers must be available, and they must be the kind that will produce a mist with most of its particles only 0.5 to 2.5 micra in diameter. These nebulizers may be used alone or in conjunction with a variety of appliances that will deliver the aerosols to the respiratory tract. The use of humidifying agents as aerosols is extremely helpful in patients with retained bronchopulmonary secretions. In some patients who have particularly thick or gelatinous secretions and in patients with mucoviscidosis, ordinary water or saline solution is often not enough. Hypertonic saline may be of value in these cases, and it is suggested that half-molar (2.9 per cent) saline be administered in 10 per cent propylene glycol. In these cases, preparations containing detergents (tyloxypal) or other preparations containing enzymes (desoxyribonuclease or trypsin) may be given by the aerosol technique, with care not to cause irritation.

The bronchodilator aerosol agents are of proved benefit in the treatment of bronchospastic disorders and are indicated in most cases of asthma and in those cases of emphysema in which there is definite evidence of associated bronchospasm.

The value of the aerosol method of administering chemotherapeutic and antibiotic drugs has probably been overrated, and it is suspected that much of the benefit previously attributed to the therapeutic agent was actually a result of humidification and liquefaction.

TREATMENT BY INHALATION has been used in one form or another for many years. Long ago patients with asthma found that they might obtain temporary relief of bronchospasm by breathing the smoke of burning stramonium leaves. More than 30 years ago, methods were developed for the inhalation of nebulized solutions of epinephrine, and this form of administration has proved to be a valuable aid in the treatment of bronchospastic disorders. Today, inhalation techniques have become an accepted part of the treatment program of many bronchopulmonary disorders.

Inhalation techniques have been developed to a high degree by anesthesiologists because of their interest in gases used for anesthesia and because of their desire to insure adequate airways for the postoperative period. Surgeons likewise share in the concern about the trachea and bronchi of the patient before and after operation. Chest physicians, allergists and pulmonary physiologists, however, have been more concerned with patients who have respiratory handicaps[1] of the kind treated non-

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From the Section of Medicine, Mayo Clinic and Mayo Foundation, Rochester, Minnesota.

Read at the meeting of the California Tuberculosis and Health Association and the California Trudeau Society, San Diego, February 8, 1962.

Submitted February 14, 1962.

surgically. All have had a hand in developing the principles and techniques of aerosol therapy.

Nearly all modern hospitals have facilities and equipment for inhalation therapy, and many have special departments devoted to treatment of this type. Technicians have been trained in the use of the equipment and the administration of therapeutic aerosols. In fact, a society of such technicians has been formed recently, The American Association of Inhalation Therapists. In addition, there is now an agency for the certification of well-trained technicians called The American Registry of Inhalation Therapists. Qualified technicians may take examinations under the auspices of the registry, and those who pass are given the degree or title of Registered Inhalation Therapist. This gives the inhalation therapist a certain status or recognition in his field, based on training, experience and dedication to his work.

Obviously, the work of these inhalation-therapy technicians must be supervised by competent and well informed physicians. For the most part, physicians who direct the activities of an inhalation-therapy department are specialists in anesthesiology or in thoracic medicine or surgery. Not only must such physicians recognize the indications for various types of inhalation therapy, they must be acquainted with the many mechanical devices that are available for inhalation therapy. In addition they must be well informed concerning the wide variety of medications and other substances that may be used in aerosol form for the treatment of bronchopulmonary disease. In fact, the physician must be in a position to evaluate critically the devices and the agents that are currently available for aerosol therapy. In particular, these physicians must not fall prey to the extravagant claims sometimes made by the makers of the mechanical devices or the substances to be nebulized. By the same token, the internist, the surgeon or the anesthesiologist who takes care of chest problems must be prepared to accept with reservation the pronouncements of some of our medical colleagues who have been enthusiastic proponents of inhalation therapy.

PRODUCTION AND ADMINISTRATION OF AEROSOLS

Aerosol therapy has three principal objectives: Mobilization of bronchial secretions, relief of bronchospasm and topical chemotherapy. In order to achieve these objectives, proper equipment must be available and appropriate substances used for aerosolization. Usually, aerosols administered to the respiratory tract are mists created from liquids by atomizers or nebulizers. As a rule, the particles produced by atomizers are large and therefore tend to "fall out" of the air stream shortly after they are produced. Thus atomizers are used principally in the mouth and upper part of the respiratory tract. Properly constructed nebulizers, however, can make particles small enough to be carried by the air stream into the smaller bronchi or alveoli where the therapeutic effect is desired.[5] In general, the op-

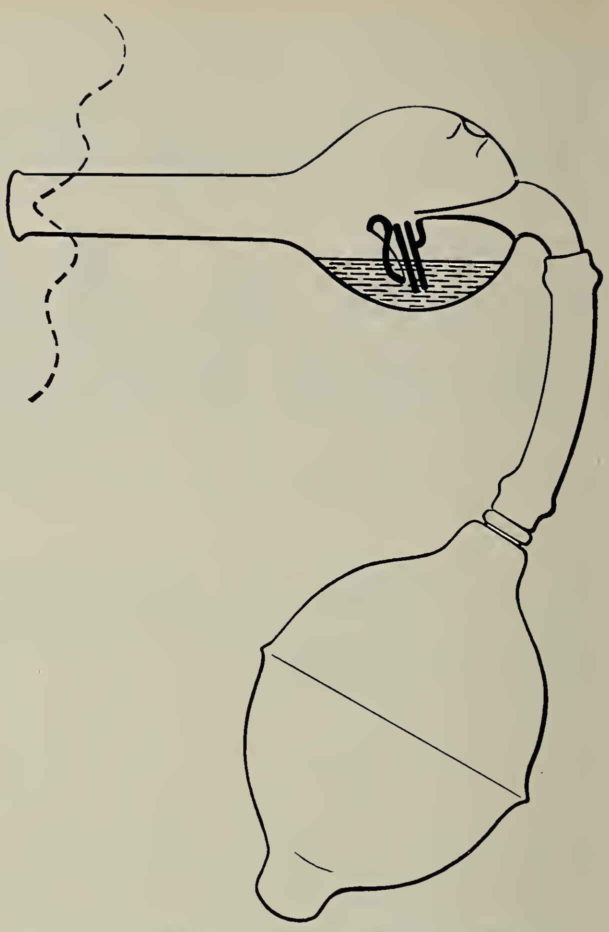

Figure 1.—Small-capacity nebulizer with hand bulb.

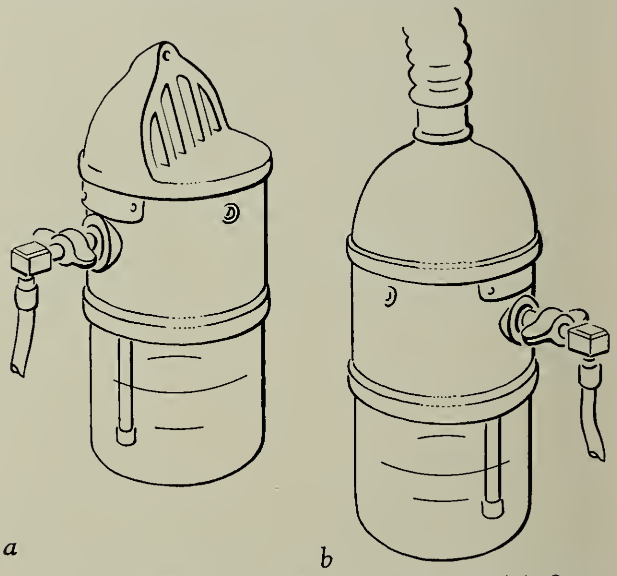

Figure 2.—Large-volume aerosol generator. (*a*) Open-type for tents and croupettes. (*b*) Closed type for use with face tents and masks.

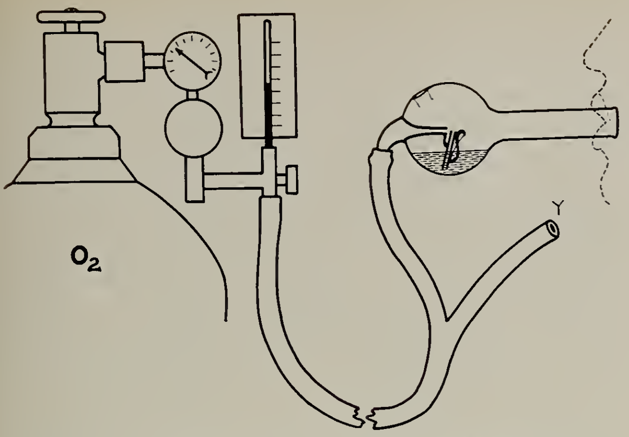

Figure 3.—Small nebulizer with Y-tube assembly in which the positive pressure is supplied by compressed oxygen. (Reprinted from Olsen, A. M.: Nebulization therapy in bronchiectasis: The use of penicillin and streptomycin aerosols, J.A.M.A., 134:947-952, July 1947.)

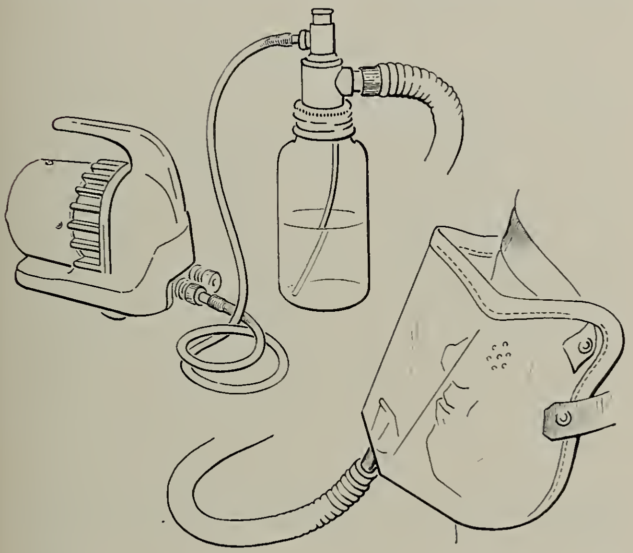

Figure 4.—Large-volume nebulizer deriving air pressure from motor-air compressor and delivering aerosol to face tent.

timal particle size for such nebulization is 0.5 to 2.5 micra.[6] Larger particles are deposited in the trachea or the major bronchi. The extremely small particles which are less than 0.5 micron in size not only pass into the alveoli but are also exhaled with the expired air. Dust aerosols do exist, but because of the large particle size and irritant effect in the bronchial tree, they have limited usefulness.

A number of nebulizers that are so constructed that most of the particles in the mist are optimal size are available. Some have small capacity for the administration of small amounts of medication at intervals (Figure 1). Others are big enough to permit giving aerosols continuously over a long period (Figure 2).

To produce the mist, a source of positive pressure is necessary. This may be supplied by compressed air or oxygen, or by a small motor air compressor. For the administration of a small amount of aerosol, a hand bulb using the small standard nebulizer may be sufficient. When the small nebulizer is operated with a motor-powered air compressor or oxygen, a Y-tube assembly will make it possible to provide the aerosol only during the inspiratory phase of inspiration, thus saving a good deal of the medication (Figure 3).

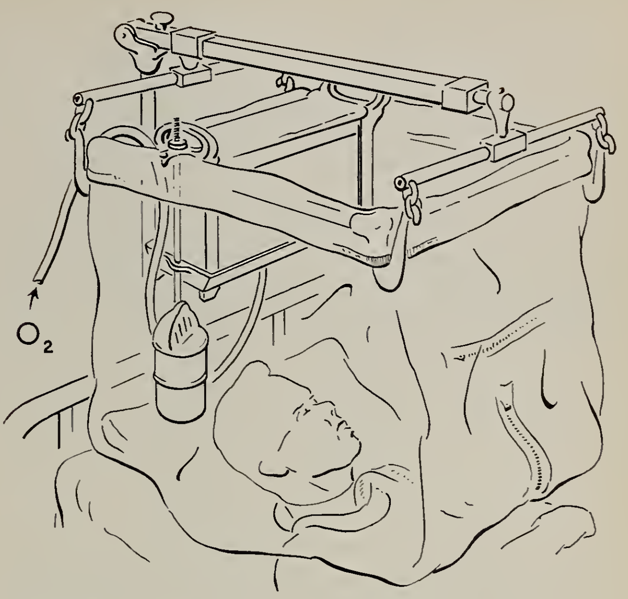

Figure 5.—Large-volume generator delivering aerosol to tent.

The aerosol may be delivered from the nebulizer to the patient in a variety of ways. As already indicated, the nebulizer itself may be placed in the mouth. However, a small nebulizer can deliver the aerosol to a mask. With the large generator, aerosols can be delivered via rubber or plastic tubing to a face tent (Figure 4) or to a tent designed for aerosol therapy (Figure 5). Likewise, the aerosols can be delivered to a unit that delivers oxygen or air to the patient with intermittent positive pressure (Figure 6). Nebulizers are now available that will pre-heat the aerosol so that it is delivered to the patient at a temperature of 90° to 125° F. Special attachments are available for introducing aerosols through tracheal tubes (Figure 7).

In general, the amount of aerosols delivered to the patient is greater when the nebulizer is close to him and is less when the aerosol has to be passed through a great deal of tubing. If the tubing is necessary, it should be of wide diameter.

AEROSOLS USED IN INHALATION THERAPY

Humidification and Liquefaction of Bronchopulmonary Secretions

In order to keep the normal mucous membranes of the respiratory tract in a healthy state, humidity of more than 40 per cent is desirable. Although

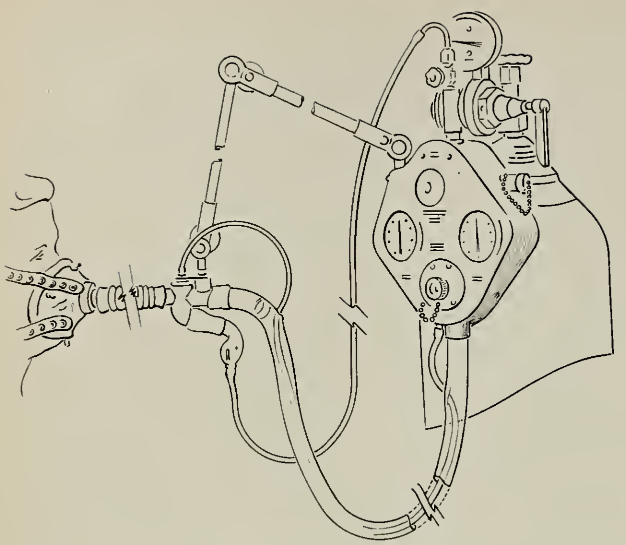

Figure 6.—Small nebulizer delivering a bronchodilator as in aerosol form to flow-sensitive positive-pressure unit (side-stream nebulization).

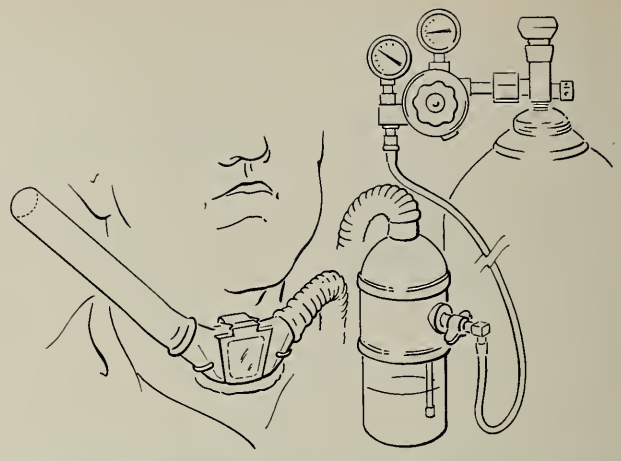

Figure 7.—Large-volume nebulizer delivering water aerosol to tracheal tube (main-stream nebulization).

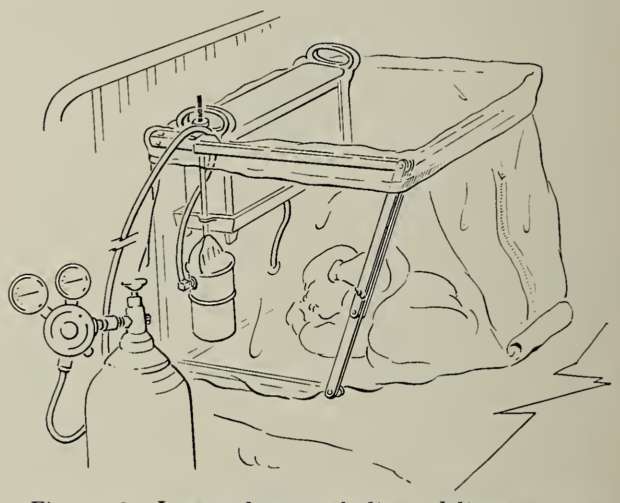

Figure 8.—Large-volume nebulizer delivering water aerosol to a croupette for treatment of tracheobronchitis in an infant.

seldom a problem to persons who live in warm climates, low humidity does become important in cold climates, especially in the winter months when artificial heating is necessary. Ordinary humidifying equipment is often woefully inadequate, and the dry air is certainly a factor in the frequency of respiratory infections. Adequate humidification is certainly an important factor in the prophylaxis of the common cold. The old-fashioned steam kettle served a useful purpose in its day and it still has value if used in relatively small, closed areas. In the home, electrically operated "cold steam" units are particularly valuable during the cold, dry winter months to supplement the humidifier attached to the furnace.

In the presence of respiratory disease, common humidifying devices are not sufficient for the liquefaction of viscous secretions retained in the bronchial tree, particularly because the large particles do not reach the smaller bronchi. Nebulizers capable of producing water vapor made of tiny particles are much more efficient in delivering the high humidity necessary for the liquefaction of secretions. Water or normal saline solution may be placed in large-volume nebulizers, and the mist delivered to ordinary bed tents, face tents, masks, nasal catheters, tracheal tubes or other devices. The addition of a "carrying agent" such as 10 per cent solution of propylene glycol may help in delivering the aerosol to the peripheral portions of the bronchial tree by inhibiting evaporation of the suspended water particles. The effectiveness of the mist can be augmented by pre-heating the aerosol in thermostatically controlled, large-volume nebulizers.[2] Warm aerosols are carried farther into the bronchial tree than cold aerosols before precipitation.

The most important agent for the liquefaction of secretions is water. Obviously, to be effective the water must be delivered to the smaller bronchi. The principal variables which determine the distribution of the water mist or any other aerosol to the bronchial tree include (1) the percentage saturation of inspired air, (2) the temperature of the aerosol, (3) the average particle size of the vapor and (4) the ability of the patient to ventilate.

The steam room formerly used by many hospitals in treatment of tracheobronchitis and pneumonia in children used a warm, completely saturated water vapor. The particle size was ignored and the needs of infants for oxygen or assisted respiration were not met. Furthermore, the steam room was most uncomfortable for the patient and the attendants who, incidentally, could hardly see the patient. A great advance in therapy took place when it became possible to introduce micronized water vapor into a small tent or croupette (Figure 8). Either compressed air or compressed oxygen could be used to operate the nebulizer. With the modern croupette, tracheostomy is rarely necessary unless it is needed for the aspiration of secretions or for the attachment of a device to assist respiration.

Oxygen has been a valuable aid in the treatment of pneumonia and other conditions that may cause hypoxia. Oxygen, however, is extremely dry even though it has been bubbled through a water bottle. Administration of "dry" oxygen may result in the thickening of bronchopulmonary secretions, thus adding the factor of bronchial obstruction to the problems of a sick patient. Now it is possible to saturate oxygen with micronized water mist by putting the nebulizer in the main stream of the oxygen flow (Figure 7). This may be accomplished with bed tents, face tents, nasal catheters or masks.

Agents employed in the liquefaction of bronchial secretions are listed in Table 1.

TABLE 1.—*Liquefaction of Bronchial Secretions*

Water nebulization (humidification)
Hygroscopic agents
Aerosols of salt solution
Heated aerosols (tepid or superheated)
Inhalation of wetting agents and enzymes

When prolonged use of humidifying aerosols is desirable, normal saline solution may be preferable. Evidence suggests that the addition of sodium chloride may be helpful in the liquefaction of certain types of mucus. Because of this, half molar (2.9 per cent) solutions of saline have been employed in the treatment of mucoviscidosis.[3] Carrying agents such as glycerin or propylene glycol may also be used.

Other substances besides water and saline solution have been recommended to aid in the liquefaction process. These fall into two categories, namely, detergents and enzymes. Undoubtedly, the detergents such as tyloxypal do aid in the mobilization of secretions by decreasing the surface tension of the mucus and separating it from the bronchial walls. Likewise, enzymes have been employed because of their mucolytic action. The proteolytic enzyme, trypsin, digests protein matter in exudates, while pancreatic dornase acts by depolymerizing the desoxyribonucleic acid present in mucus.[9] Unfortunately, both the detergent and the enzyme preparations are themselves capable of causing enough irritation in the bronchial tree to produce bronchorrhea. Therefore, such substances should be used with discretion. The search for more satisfactory mucolytic agents continues. Improvement in techniques of delivering aerosols is still possible. Physicians must not lose sight of the great importance of oral and parenteral fluids in sputum liquefaction, or of the value of iodides and other expectorant agents.

Aerosols for Relief of Bronchospasm

The value of epinephrine derivatives administered by the aerosol method has long been recognized. Ordinarily, a small amount of the solution is placed in a small-capacity nebulizer, either of the glass or plastic type, and the patient delivers the bronchodilator with the aid of a hand bulb. Treatments for the relief of asthma are usually of very short duration and, therefore, only a few inhalations are required. Recently developed, small units which employ the gas phase of dichlorodifluoromethane as a propellant for the nebulization of the bronchodilator aerosol have proved to be satisfactory. As was previously noted, devices employing a bronchodilator prepared in powdered form have generally been less satisfactory.

Derivatives such as isoproterenol sulfate, isoproterenol hydrochloride, and racemic epinephrine have largely replaced epinephrine itself (1:100 solutions) in the treatment of bronchospasm. At times, medicaments containing vasoconstrictor, antihistaminic or anticholinergic drugs or steroids have been nebulized alone or in combination with epinephrine aerosols. Such preparations have a limited value in the management of bronchospastic disorders.

Chemotherapeutic and Antibiotic Aerosols

When penicillin and other antibiotics became available, it was hoped that the aerosol method would be the preferred route of administration in bronchopulmonary disease. I was among the most enthusiastic about the possibilities at that time.[7] Certainly, the initial results of penicillin aerosol therapy in bronchiectasis were most encouraging. Both penicillin and streptomycin were well tolerated in aerosol form by the tracheobronchial tree. In time, however, an increasing number of patients became sensitive to these antibiotics, especially to penicillin. Other antibiotics of the broad-spectrum type have never been very satisfactory because they often produce local irritation in the bronchial tree. When the various antibiotics were administered by the aerosol technique, the effect appeared to be topical in nature, although penicillin was absorbed as was demonstrated by significant concentrations of penicillin in the blood stream.

Even more disturbing than the allergic reactions to penicillin and other drugs was the emergence of resistant strains of bacteria in the bronchopulmonary secretion. At present, significant organisms recovered from tracheobronchial secretions are rarely sensitive to penicillin. Furthermore, prac-

TABLE 2.—*Antibiotics by Aerosol: Dosage Schedule**

Drug	Dose per cc. of Water or Saline	Drug	Dose per cc. of Water or Saline
Penicillin	50,000 units	Neomycin	200 mg.
Streptomycin	200 mg.	Polymyxin	10 mg.
Tetracycline	125 mg.	Novobiocin	250 mg.
Chloramphenicol	250 mg.	Kanamycin	250 mg.

*Usually administered 2 cc. four times daily.

tically all of the antibiotics can be administered orally or parenterally with just as satisfactory results as the results from administration of the drugs by aerosol. This does not mean, however, that the aerosol method has been discarded in the management of bronchitis, bronchiectasis, lung abscess, mucoviscidosis, certain pneumonias, bronchospasm and other pulmonary affections. On the contrary, the beneficial effects of the aerosol techniques in the liquefaction of secretions and relief of bronchospasm are more clearly recognized than ever. I suspect that in a large part our early favorable results with chemotherapeutic aerosols could be attributed to the sputum liquefaction effect.

There are, of course, certain antibiotic preparations which are toxic when given by parenteral means and which may be very effective on aerosolization. As early as 1941, glucosulfone (Promin®) and other sulfonamides were administered by aerosol for tracheobronchial disease and proved to be effective. Today, we may use neomycin or polymyxin or other drugs by nebulization when the bronchopulmonary secretions contain organisms resistant to the usual antibiotics but sensitive to one of these more toxic drugs (Table 2).

INDICATIONS FOR AEROSOL THERAPY

As has already been stated, the inhalation of aerosols is indicated for the liquefaction and mobilization of secretions, the relief of bronchospasm, the topical administration of antibiotics to the tracheobronchial tree and at times for the suppression of turbulence in bronchopulmonary secretions. At times, aerosols may be used which combine the therapeutic effects of humidifying, bronchodilating and antimicrobial agents. The method of administering the aerosol will also vary with the circumstances.

Aerosols may be used in a wide variety of respiratory problems. Water aerosols have been employed for the principal purpose of liquefying secretions in other conditions besides the infectious tracheobronchitis of infants and the pneumonias of children or adults. For example, after removal of foreign bodies from the bronchi in children, use of aerosol mist in a croupette or tent for a day or two is almost always desirable. Water or normal saline solution in aerosol form may help in the resolution of the tracheobronchitis that often follows severe upper respiratory infections or influenza.

Inhalation therapy has been helpful in the preoperative preparation and postoperative care of surgical patients. Patients with asthma, asthmatic bronchitis, emphysema, smokers' cough or bronchiectasis should receive preoperative preparation for a time. The type of aerosol used will vary according to the patient's problem. Water or saline solution may be given by face tent for 15 to 30 minutes of every hour. Ten to twenty drops of isoproterenol (1:400) may be given by a small nebulizer and Y tube four times daily. Sometimes it is desirable in preoperative preparation to use a positive pressure machine to deliver the bronchodilator so that the patient will be familiar with the method in the event that it is needed in the postoperative period.

All postoperative patients with bronchopulmonary disorders should receive humidifying aerosols several times a day. When bronchodilating drugs are necessary in the postoperative period, the intermittent positive-pressure-breathing technique is often an excellent method of administration. In the presence of tenacious secretions, careful use of tyloxypal preparations or pancreatic dornase (50,000 units per cubic centimeter) is justified if the secretions cannot be raised with the help of water or saline aerosols. These substances are best given by the nebulizer-Y tube technique or with the positive pressure unit and usually are administered four times daily.

Use of humidifying aerosols is imperative for patients with tracheotomy, especially after surgical procedures. Very satisfactory devices are available for the administration of aerosol-oxygen mixtures to tracheotomy tubes (Figure 7), and flow-sensitive or piston-type pressure respirators can be attached to the tracheal tubes.

Patients with poliomyelitis, paraplegia or other diseases of the nervous system and those with generalized muscular diseases are often candidates for aerosol therapy. Early and frequent use of humidifying aerosols may keep these patients out of trouble. Often these patients need assistance to respiration such as tank or chest respirators or cycling devices attached to tracheostomy tubes. The cough machine is of value for this group of patients.

Antibiotic aerosols may be added to the care of any of these patients if susceptible organisms are isolated from the sputum or bronchial secretion. The aerosol route is especially indicated if oral or parenteral administration of the antibiotic is contraindicated. This may be the case with neomycin, polymyxin, kanamycin, streptomycin and chloramphenicol, the systemic absorption of which is often undesirable (Table 2).

Patients with pulmonary emphysema often have associated bronchospasm, bronchitis and retention of viscous secretions. The presence or absence of bronchospasm in these cases can easily be demonstrated by a measurement of the vital capacity and maximal breathing capacity before and after use of a bronchodilator. If bronchospasm complicates pulmonary emphysema, measures should be taken to relieve the bronchospasm. These include elimination of all respiratory irritants, including tobacco smoke, and trial of orally administered bronchodilators. Usually too, systematic administration of a measured amount of aerosol bronchodilator about four times a day is desirable.[4] Inasmuch as the patient must nebulize about 1 cc. of solution for each dose, the hand bulb technique is impractical. Most of these patients are able to nebulize the required amount of solution by using an ordinary glass or plastic nebulizer connected to an oxygen or a motor-air compressor with a Y tube incorporated into the system (Figure 3). Occasionally a mask or a rebreathing bag of some type may be desirable. To some patients, the bronchodilator aerosol is administered more efficiently with the aid of an intermittent positive pressure device that uses the patient's own breathing effort to trip a valve, which permits a forced flow of oxygen or air under pressure to enter the tracheobronchial tree. For most patients with emphysema this apparatus is valuable only when it does a more effective job of delivering the bronchodilator to the bronchial tree.

Intermittent positive pressure breathing may provide for more adequate ventilation of the bronchial tree during the time that the machine is in operation.[8] For a short time, the distribution of the inspired air to portions of the lung which are poorly ventilated may be improved. It is questionable, however, whether the benefits of the temporary hyperventilation of the lung persist for any appreciable period after intermittent positive pressure breathing is discontinued. Thus, the value of using intermittent positive pressure breathing routinely in all cases of emphysema is seriously questioned. However, in patients with respiratory acidosis caused by retention of carbon dioxide, frequent, more continuous use certainly may improve pulmonary ventilation and thus may eliminate carbon dioxide, reduce hypoxia and help in restoring the normal chemical composition of the blood.

The use of a volatile alcohol by inhalation has proved to be very beneficial as an antifoaming agent in the treatment of pulmonary edema, and the administration by nebulizer of defoaming agents containing silicone is likewise helpful in suppressing the secretions of pulmonary edema. By the same token, positive pressure respiration alone may be helpful in combatting this condition, especially when it is combined with other methods of treating the acutely edematous lung.

Much credit must be given to the manufacturers of the various nebulizers, tents, masks, positive-pressure machines and cough machines. Many of these pieces of apparatus are ingenious, well made and most useful. Similarly, the various pharmaceutical houses must be commended for providing the medical profession with a variety of substances and solutions which are useful when administered with the previously mentioned equipment. It is natural that these manufacturers should advertise their wares to the medical profession. It is the duty of the physician who is in charge of the patient, however, to evaluate critically the indications for therapeutic aerosol. Also, he should personally supervise the activities of the inhalation-therapy technicians, and he should acquaint himself with the mechanics of the various pieces of equipment so that he does not rely entirely on the judgment of the technician. Inhalation therapy, when indicated, must be prescribed individually for each patient by the physician, and under no circumstances should administration of positive pressure or any other type of therapy be made routine.

Every hospital today should have a training or instruction program in aerosol-therapy techniques for those members of the staff who are directly concerned. This includes all members of the department of anesthesia, all surgeons, all internists and chest specialists who are involved in the care of patients with pulmonary and bronchial diseases. It is particularly important that the house staff in every hospital be thoroughly trained in the use of such equipment and instructed in the indications for the various types of aerosols.

Likewise, the nursing staff should be acquainted with the operation of oxygen equipment, nebulizers, positive-pressure machines and respirators. Failure of the nursing staff to understand the operation of the equipment might prove fatal. In any case, the operation of the various devices and the administration of aerosols must not be left entirely to the oxygen-therapy technician. Valuable as such technicians are, they do not have the special knowledge and training in medicine essential for the treatment of disease. If therapeutic aerosols are to be used properly and intelligently, the medical profession must assume full responsibility for the administration.

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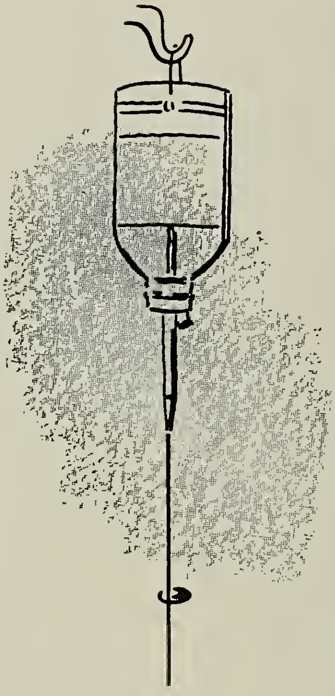

Gastroduodenal Hemorrhage: Surgical Management

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• Two thousand five hundred forty-five cases of upper gastrointestinal tract hemorrhage were studied especially with a view to determining the indications for urgent surgical treatment.

Decisions as to whether and when to operate were as follows:

Immediate operation for patients over 50 years with a good history of ulcer and a severe initial bleed.

Operation after the first repetition of bleeding in patients (1) over 50 with a good history and a mild initial bleed, (2) over 50 with inconclusive history but severe initial bleed, (3) under 50 with a good history and a severe initial bleed.

In all other cases, operation was used only if conservative treatment failed.

Absolute indications for operation were (a) association with perforation, (b) association with stenosis, (c) persistence of severe ulcer pain after hemorrhage, (d) continuous bleeding.

Since operation is to be avoided if possible in cases of esophagitis, erosive gastritis and small acute or subacute ulcers, emergency gastroscopy has valuable uses.

Where operation is deemed necessary and no obvious lesion found at laparotomy, blind gastrectomy* appears to be the most satisfactory procedure.

The mortality rate associated with upper gastrointestinal tract bleeding in patients less than 60 years of age was low (2.5 per cent). Even in cases in which operation was required, it was 6.2 per cent. Over 60 years the mortality rises steeply with increasing age, and in cases of operation the rise is even steeper.

By using the methods of selection the overall mortality rate was appreciably reduced.

In the Gastric Unit at St. James' Hospital, London, we have since 1939 made a particular study of the problem of gastroduodenal hemorrhage. In 20 years 2,545 patients with hemorrhage severe enough to warrant urgent admission to hospital were studied. The causes of the hemorrhage covered a wide diagnostic field (Table 1). Cases of severe melena due to lesions of the lower bowel such as ulcerative colitis, colonic carcinoma and diverticulitis were not included in the study, although these may exsanguinate the patient and cause profound shock.

It will be seen that there are five large groups:

1. What we call the peptic ulcer-gastritis group
2. Portal hypertension
3. Carcinoma of stomach
4. The uncertain diagnosis group
5. A group of rarer diagnostic causes.

The 101 cases in which the diagnosis was not established made up 4 per cent of the total. Of the 11 "other gastric neoplasms," seven were leiomyomas, or leiomyosarcomas; one was an ulcerating neurofibroma and two were lymphosarcomas and one a benign adenoma. The carcinomas of the pancreas and bile ducts were all advanced and inoperable.

TABLE 1.—*Diagnosis in 2,545 Cases of Gastroduodenal Hemorrhage*

	No. of Cases
Peptic ulcer-gastritis group:	
Gastric ulcer	1,019
Duodenal ulcer	908
Anastomotic ulcer	104
Esophageal ulcer	8
Gastritis	173
Hiatal hernia	51
Portal hypertension	80
Carcinoma of stomach	66
Mallory-Weiss syndrome	3
Carcinoma of duodenum	1
Carcinoma of esophagus	2
Other gastric neoplasms	11
Gastric diverticulum	1
Pancreatitis	2
Carcinoma of pancreas and bile ducts	7
Aortic aneurysm	1
Swallowed foreign body	1
Retrograde intussusception	2
Telangiectasis of ileum	1
Polycythemia vera	1
Hemocholocyst	1
Meckel's diverticulum	1
Uncertain etiology	101

Retrograde intussusception of the efferent loop of a gastroenterostomy is difficult to diagnose in the acute phase, but we have been able on two occasions to see this happening through the gastroscope. It has been surprising to us how rare is hematemesis from a swallowed foreign body.

It is the peptic ulcer-gastritis group I wish particularly to discuss, as these cases offer the best prognosis and are more amenable to treatment.

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*The author uses *gastrectomy* to mean subtotal or partial gastrectomy.

TABLE 2.—*Comparison of Reported Results of Early Operation and Late Operation in Two Series of Cases of Gastroduodenal Hemorrhage*

	Early Operation			Late Operation		
	Number Patients	Died	Mortality (Per Cent)	Number Patients	Died	Mortality (Per Cent)
Finsterer 1914-46:						
Private cases	77	2	2.5	59	15	25.4
Hospital cases	73	4	5.5	64	13	20.3
Total	150	6	4.0	123	28	22.8
Gordon-Taylor 1933-39	18	1	5.5	11	4	36.0

In London, the number of gastric ulcers is very large, the ratio of duodenal ulcer to gastric ulcer being 3.5:1, and it will be seen that hemorrhage is more often a presenting symptom of gastric than of duodenal ulcer. This, when considered in conjunction with the fact that the mortality of hemorrhage from gastric ulcers in this series was 13 per cent whereas that in duodenal ulcers was 8 per cent, gives some indication of the particular problem we are faced with in our area.

It is not within the scope of this paper to discuss the medical management of these cases. We have, over the years, followed the advances which started with Meulengracht[3] in 1935. Adequate blood replacement and correction and maintenance of electrolyte balance require the constant attention of physician, hematologist and biochemist.

The points in this study which have particularly interested us as surgeons are:

1. Methods of establishing an accurate diagnosis of the cause of the hemorrhage.
2. The part surgical operation should play in emergency treatment.
3. The correct surgical procedure in each individual case.

In the early days of this study, surgical treatment was confined to patients who did not respond to medical treatment—that is, the operation was a late one and a last resort. The operative procedure usually consisted of a minimum technical maneuver designed to control the bleeding, such as underrunning a bleeding point or the ulcer itself, or wedge resection. In some instances the only technical procedure feasible was gastrectomy.* It was found that this approach was associated with an overall mortality of 13.6 per cent and reviews of fatal cases led us to believe that many of the patients could have been saved by earlier operation. The work of Finsterer[1] in Vienna and Gordon-Taylor[2] in London (Table 2) had already demonstrated this.

We further found that procedures short of gastrectomy were often associated with a high complication rate, especially repetition of bleeding, whereas gastrectomy was relatively unassociated with these complications. It was therefore decided to carry out a clinical experiment to determine two points:

1. How to select the case for early operation.
2. Was gastrectomy the best technical procedure.

Continuing at first to operate mainly as an ultimate part of treatment, we abandoned the minor procedures and, when operation was necessary, performed routine gastrectomy. It quickly became obvious that a point was made. Overall mortality fell to 11 per cent and morbidity was considerably reduced.

In January, 1948, we decided to follow the Finsterer method of surgical selection—that is, to perform urgent gastrectomy on all patients admitted with severe hemorrhage and a history suggestive of peptic ulceration. After only a few months it was patent that our mortality was falling so we continued the method through 1948 and 1949. Data on results are shown in Table 3.

The overall mortality had fallen from 13.6 per cent to 7 per cent and the operative mortality was 8.7 per cent in spite of the fact that 43 per cent of the patients were over 60 years of age. Fifty-nine per cent of the patients were treated surgically.

Whilst this gave cause for modest satisfaction, we found during this two-year period that we had made many diagnostic errors and a number of patients were operated on unnecessarily, mainly those with acute and subacute gastric and duodenal ulcers or erosive gastritis who might well have recovered with conservative treatment. We found, however, that our case analyses were of great value in the task of selecting patients for operation. Simply, the problem was to pick out the patient who, if treated conservatively, is in grave danger of repeated bleeding with its associated high mortality.

TABLE 3.—*Results of Treatment of Patients with Gastroduodenal Bleeding, Using Finsterer Criteria for Selection, 1948-49*

Total cases	215
Operated on (per cent)	59.0
Overall mortality (per cent)	7.0
Over 60 years (per cent)	43.0
Average age at death	65
Operations	126
Mortality (per cent)	8.7

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*The author uses *gastrectomy* to mean subtotal or partial gastrectomy.

TABLE 4.—*Relationship of Severity of First Hemorrhage to Mortality*

	Number of Cases	Mortality (Per Cent)
Initial hemorrhage:		
Severe	82	21.0
Mild	118	7.6
Total	200	13.0
Died at first hemorrhage	3	11.5% of deaths
Died at repeat bleed	23	88.5% of deaths

Several factors seemed to be important.

1. *The age factor.* Mortality related to age is shown in Chart 1. Since the rate rose sharply with age, patients over 50 seemed to be candidates for early operation.

2. *The severity of the initial bleed.* The second factor considered was the character and severity of the initial hemorrhage. We classified the degree of severity into mild and severe.

Severe hemorrhage was defined as sufficient to cause collapse and shock where the blood pressure had fallen considerably. A good base line was considered to be a blood pressure below 100 mm. of mercury systolic and hemoglobin of less than 7 gm. per 100 cc.

Mild hemorrhage was defined as anything short of this and where the patient was in good condition on admission with a reasonable blood pressure and no gross clinical evidence of shock.

We found that where in one group of our cases the overall mortality was 13 per cent, the mortality in the severe cases was over 21 per cent and in the mild 7.6 per cent (Table 4). It was also noted that hematemesis was of greater significance than melena, but the simultaneous occurrence of both was gravest of all.

We have tried to assess the severity of bleeding by blood volume estimations, but in our hands the results have been inconclusive and sometimes confusing. We therefore rely entirely on clinical assessment in each case.

It has long been established and we also have found (Table 4) that it is unusual for the first hemorrhage to prove fatal, and that death usually follows one or more repetitions of the hemorrhage or occurs when hemorrhage continues in spite of adequate treatment. It is obviously important, therefore, to try to forecast the probability of recurrence of hemorrhage.

Our studies showed that the chronic and penetrating ulcer was the main offender; thus the clinical history was of the greatest importance. A long history with severe pain, especially pain radiating to the back, was the most significant. After a hemorrhage, the ulcer pain usually dramatically disappears. Where it persists, however, we have found that this indicates a chronic and often penetrating ulcer and that repetition of hemorrhage is very probable. We found also that the association of hemorrhage and stenosis was a lethal one, so that clinical evidence of stenosis, especially vomiting, must be looked for.

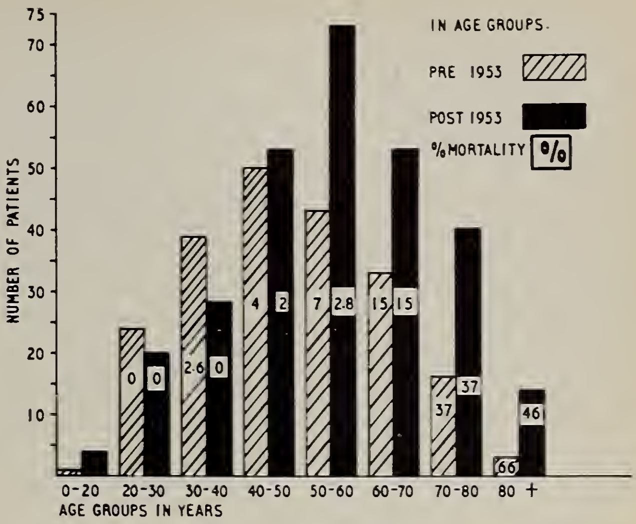

Chart 1.—Mortality related to age in peptic ulcer gastritis group.

A high proportion of fatal cases had associated morbid conditions such as myocardial ischemia, chronic lung conditions, cardiac insufficiency, rheumatoid arthritis and many others; and these cases require great clinical judgment in deciding whether surgical operation or conservatism offers the best hope of survival. Generally speaking, our experience has been that although surgical mortality is bound to be high, the patients do better with gastrectomy under local anesthesia than with optimistically persistent conservatism.

With these thoughts in mind, in 1950 we decided on a method of surgical selections as shown in Chart 2.

Quite obviously it is unwise to lay down hard and fast rules in this matter and individual clinical assessment was of the utmost importance, but such a plan helped to put every member of the team on his toes and was instrumental in bringing about that little extra care and attention that might make the difference between failure and success.

Clinical symptoms are often deceptive. A giant ulcer can present with a minimum of pain and the shortest of histories, whereas the smallest ulcer, erosive gastritis or esophagitis due to hiatal hernia can be associated not only with catastrophic hemorrhage but a history closely simulating that of a chronic ulcer and even severe and persistent pain. We have therefore tried to increase our preoperative diagnostic rate by ancillary investigations.

Chart 2.—Circumstances Indicating When to Operate in Cases of Gastroduodenal Bleeding

Age	History	Severity of Bleed	When to Operate
Over 50 years	Good history of ulcer	Severe bleed	Immediately
		Mild bleed	At first repeat of bleed
	Poor history of ulcer	Severe bleed	At first repeat of bleed
		Mild bleed	If medical treatment fails
Under 50 years	Good history of ulcer	Severe bleed	At first repeat of bleed
		Mild bleed	If medical treatment fails
	Poor history of ulcer	Severe bleed	
		Mild bleed	

Absolute indications *in any case:*

1. Association with perforation.
2. Association with stenosis.
3. Persistence of severe ulcer pain after hemorrhage.
4. Continuous bleeding.

Roentgenographic examination has been found unsatisfactory. The patients are often ill and a number of them collapse badly during x-ray examination. The interpretation of the films is difficult; often retained clot in the stomach will show as a confusing filling defect and a gastric ulcer if clot-filled may not show as a niche. The interpretation of duodenal cap shadows is also difficult, especially when the investigation has to be hurried and the examination has to be made with the patient supine or prone. Hence, we do not use roentgenographic investigation.

In three main lesions it is advisable if possible to avoid surgical operation: (1) Esophagitis due to an hiatal hernia; (2) erosive gastritis; (3) small acute or subacute ulcer. In this large series, only once did we operate urgently in a case of bleeding esophagitis. If the clinical history is suggestive in any way of such a lesion, we avoid operation as long as possible; and as the hemorrhage, in our experience, always ceases soon after treatment commences, an emergency hiatal hernia repair has never been necessary.

Of course gastric or duodenal ulcer can occur in association with hiatal hernia and may be the cause of the bleeding; then emergency endoscopy is of the greatest value. For some years we have carried out emergency gastroscopy in doubtful cases. Obscuration by blood in the stomach has been the cause of failure in some cases, but usually we can diagnose gastritis, small gastric ulcers and bleeding esophagitis by this means and have therefore been enabled to avoid unnecessary emergency operation. This investigation seems to cause very little disturbance to the patients, and although it is admittedly unpleasant for them they seem to tolerate it very well.

Once surgical intervention has been decided upon, no time should be lost. On more than one occasion, between decision and operation, a further hemorrhage occurred—in one case resulting in the death of the patient. However, adequate time must be spent on replacement of blood loss and in bringing the patient to the best possible condition for operation. We feel that if possible this should be done in an annex to the operating theater, for example the anesthetizing or recovery room.

ANESTHESIA AND SURGICAL TECHNIQUE

In the early days we insisted that operation should always be done under local anesthesia because there was a high incidence of postoperative pulmonary complications; but the introduction of modern techniques, especially the use of relaxants, has caused us to change our views. We now use general anesthesia as a routine but, as I have already said, we use local anesthesia if the patient is a poor risk or of advanced age.

We have long been convinced that fairly rapid operation is important. For this reason a midline incision is used as being the most rapid method of entering the upper abdomen and the easiest to close. To ascertain the cause of the bleeding a very thorough exploration of the abdomen is required in the light of the multiplicity of lesions which may cause severe gastroduodenal hemorrhage.

As to specific techniques, in summary we employ: (1) For a duodenal ulcer, gastrectomy of a Polya type with a valve; (2) for a gastric ulcer, gastrectomy of Billroth I type with gastroduodenal anastomosis. The real problem arises when no apparent cause for the bleeding can be found on palpation or external examination of the viscera.

In the early days we performed an extensive ligation of all the vessels supplying the stomach but this was associated with a rather high incidence of recurrence of bleeding. We then performed gastrotomy with manual and visual exploration of the interior of the stomach. The discovery of a lesion led to gastrectomy. For the remainder, we carried out vasoligation. This latter still was associated with repetition of bleeding so we have since 1950 performed a blind gastrectomy in such cases. There are many arguments against this principle. The two main ones are: (1) The gastrectomy is a mutilating operation and may be unnecessary; (2) the lesion may be above the line of gastric transection and even in the esophagus. The answer to the first objection is that in the circumstances we are concerned only with saving life. The second objection can be obviated as follows: Blind gastrectomy of Billroth I type is performed, but before completion of the gastroduodenal anastomosis the interior of the gastric stump is examined visually and by palpation, and any lesion found is underrun. If the lesion is a diffuse gastritis, removal of the three-fourths of the stomach seems to be adequate to prevent serious postoperative bleeding; and since we have adopted this procedure no patient has been lost from further hemorrhage.

Patients with gastroduodenal bleeding are relatively unprepared for operation. They have not had the advantage of preoperative physiotherapy and breathing exercises; many of them are excessive smokers and at certain times of the year are suffering from the effects of the London smog. In a high proportion of the older ones, postoperative pulmonary complications develop. Such complications are the commonest cause of death.

We have found that bronchoscopic suction at the end of the operation is of great value. Plugs of mucus deep in the bronchial tree can be removed under direct vision. We have also found a small bronchoscope a most useful piece of equipment in the wards and do not hesitate to use it if our physiotherapists are unable to clear the bronchi by change of posture or other simple means.

RESULTS

In the ten years 1950 through 1959 we admitted 1,497 patients with gastroduodenal hemorrhage in the peptic ulcer-gastritis group, and our mortality experience with the various kinds of lesions in this group was as follows:

	Number Patients	Deaths	Mortality (Per Cent)
Gastric ulcer	623	82	13.0
Duodenal ulcer	635	52	8.2
Anastomotic ulcer	59	1	1.6
Gastritis	121	5	4.1
Hiatal hernia	59	0	0
Total	1,497	142	9.5

The overall mortality of 9.5 per cent was higher than in the group in which the Finsterer selection was used (7.0 per cent) but lower than the 13.6 per cent that obtained during our more conservative approach. The difference in mortality between gastric ulcers and duodenal ulcers remained the same. The one death in the bleeding anastomotic ulcer group occurred following operation. Five patients died of catastrophic hemorrhage from erosive gastritis. In four of them a blind gastrectomy was necessary and the other died suddenly of repeated bleeding before we could operate. In 34 other cases, blind gastrectomy was successfully done for erosive gastritis.

The high incidence of gastric ulcers in this series is one explanation of the mortality, but an analysis of the age distribution is perhaps more revealing.

Years of Age	Number Patients	Per Cent of Total	Mortality (Per Cent)
Under 50	510	34.0	0.6
Over 50	987	66.0	14.0
Over 60	691	46.0	17.6
Over 70	400	27.0	23.2
Over 80	87	5.8	28.7

The average age of patients who died was 70 years.

Mortality associated with the age factor in a group of 395 patients treated by emergency gastrectomy was as follows:

Years of Age	Number Patients	Deaths	Per Cent of Total	Mortality (Per Cent)
Under 50	85	3	21.0	3.5
Over 50	310	67	79.0	21.6
Over 60	218	59	55.0	27.0
Over 70	109	44	28.0	40.0
Over 80	18	13	5.0	72.0

The kinds of lesions in the patients treated by emergency gastrectomy, and the mortality associated with each kind, were as follows:

	Number Patients	Deaths	Mortality (Per Cent)
Gastric ulcer	200	34	17.0 (13.0*)
Duodenal ulcer	168	31	18.0 (8.2*)
Anastomotic ulcer	8	1	12.5 (1.6*)
Gastritis	18	4	22.0 (4.1*)
Hiatal hernia	1	0	
Total	395	70	17.7

The figures in parentheses are the overall mortality rates for the whole series, shown for purposes of comparison.

Whereas for the series as a whole the mortality rate associated with gastric ulcers is higher than for duodenal ulcers, in the surgical series the position is reversed. The explanation of this is a little obscure, but we feel that a number of bleeding acute and subacute gastric ulcers require operative treatment, whereas all duodenal ulcers requiring such treatment are chronic ones. Furthermore, gastrectomy for a gastric ulcer is usually a technically easier operation than for a duodenal ulcer.

The association of perforation and hemorrhage may present in three ways:

1. As a perforation treated conservatively, or by simple suture, with the occurrence of hemorrhage during recovery. These we treat along the lines laid down for the treatment of hemorrhage.

2. As a hemorrhage in which perforation occurs during conservative treatment. These we usually treat by gastrectomy.

3. As simultaneous hemorrhage and perforation. This we treat by gastrectomy.

There were 24 cases with the combination of hemorrhage and perforation in the series, with a 41.6 per cent mortality. Six of the patients were moribund on admission and died soon after without operation. Eighteen were treated surgically, with a mortality of 22 per cent.

I hope the factor of age has not been overemphasized, but we consider it poses a most formidable problem and, in this day of extended expectation of life, an almost insoluble one. Associated serious morbid conditions were present in a high proportion of the older age patients.

Of the 1,497 patients in the whole series, 103 had very severe associated morbid conditions, and 42 of this group died. Since the total number of deaths for the entire series was 142, the complexity of the problem is emphasized.

CONCLUSIONS

Under 60 years of age the mortality of gastroduodenal hemorrhage is low. It was 2.5 per cent for that age bracket in the present series, and even when surgical treatment was necessary it was only 6.2 per cent.

Over the age of 60 the mortality rises steeply with increasing age, and where the hemorrhage is severe enough to warrant surgical treatment the mortality rises even more steeply.

By selective surgical treatment along the lines laid down, we reduced the overall mortality from 13.6 per cent to 9.5 per cent. This even though we have over the last ten years had to deal with a higher age group than in the pre-1950 series.

The low mortality during the time we were using the Finsterer criteria of selection demonstrates the value of early surgical treatment.

Endoscopy, especially gastroscopy, is of the greatest value in making accurate diagnosis and by its use we avoided operating unnecessarily in many cases.

Since old people seem to withstand gastric resection well if done as a definitive planned procedure and after careful preoperative preparation but are liable to severe postoperative complications when the operation is done in emergency, we believe that a more radical approach to peptic ulcers in general in the elderly should be adopted.

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Asthma Alternating with Psychiatric Symptomatology

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• A group of cases and review of the literature is presented documenting the interesting clinical phenomenon of an inverse temporal relationship between asthmatic symptoms and clinical psychiatric symptoms in some patients. It is suggested that physicians treating asthmatic patients should be prepared to handle potential psychiatric complications that may be concomitants of the successful medical management of patients with asthma.

ALMOST ALL PATIENTS in whom clinical bronchial asthma develops show an allergic diathesis, and there is little question that allergens, especially pollens, can precipitate acute asthmatic attacks in susceptible persons. The role of psychiatric variables in the etiology of asthma has been the focus of many studies over the past several years. There have been many well documented case reports and experimental studies showing that emotional factors can precipitate various types of acute allergic reactions, including acute asthmatic attacks. Probably the most well known example of the latter is that cited by Osler[14] of the patient who was allergic to roses and developed severe symptoms in the consultation room on sighting an artificial rose.

One line of evidence that has been followed to document psychiatric influences in asthma has been the phenomenon of alternation of asthma and various clinical psychopathological disorders. This finding, in addition to several studies indicating the statistically significant below average incidence of asthma in psychiatric patients in hospital, has led to numerous hypotheses. Among these are (1) Asthmatic persons have a "psychotic core"[1]; (2) physiologic alterations associated with psychosis change autonomic (parasympathetic) reactivity[5]; (3) something about the lower incidence of asthma in psychotic persons indicates a biochemical or physiologic fact about psychosis[17]; (4) asthma is part of the defense apparatus of a person such that, when it is removed, a decompensation is possible[2]; (5) asthma is an "equivalent" of a distressing affect or conflict.[4]

Rather than bringing evidence to bear in favor of any of these difficult-to-test hypotheses, we shall report cases reaffirming the existence of this alternation phenomenon and review recent work having to do with it, regardless of the theoretical context within which it was reported.

REPORTS OF CASES

CASE 1. The patient was a 17-year-old hebephrenic schizophrenic boy who had been in intensive psychotherapy for two years. His psychosis began at the age of 13 and gradually progressed, finally culminating in admittance to hospital, at the age of 15, in a severely regressed state—hallucinary, delusional, intermittently catatonic and incontinent.

He had a history of asthma beginning at the age of four and coinciding in time with the beginning of severe conflict in his home. Until the age of 13 and the beginning of psychosis, the patient had several attacks of asthma a year, lasting several hours to three days. He frequently required "injections" to terminate these episodes and upon one occasion was put in hospital. With the onset of his social withdrawal, peculiar ideation, school problems and preoccupations with abstract and fanciful material, the asthmatic episodes ceased. After he had been in hospital one month, receiving intensive psychotherapy and phenothiazine medication, the psychotic process remitted, and when it did the nighttime wheezing returned. It was controlled with oral medication. Since that time, he has had periodic psychological regressions. These occur about every ten weeks and last two to three weeks. The first four times these regressions occurred, the symptoms of asthma disappeared and in each case the psychiatric remission was heralded by the return of the patient's wheezing. During the 12 months before the present report, the psychiatric symptoms diminished decidedly in severity and the asthma did not recur.

CASE 2. An 18-year-old girl undergoing psychiatric treatment first had breathing difficulties at the age of 18 months, and after several years was diagnosed as having bronchial asthma. Up to the age of 18 the longest symptom-free period in her life had been a four-month period when she was living at a residential home for asthmatic children in the Rocky Mountain states. During the first six

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months of her psychotherapy she continued to have severe asthmatic attacks, requiring the usual emergency room regimen and occasional overnight stays in hospital. She played a somewhat passive role in her therapy during this time, denying any psychological symptoms such as anxiety or depression. She did not show any signs of either anxiety or depression, and is described by her mother during this period (as well as for most of her life preceding this period) as a very quiet, obedient, hard-working person who never expressed any anger or any other emotion so far as she could tell.

After this initial period of her psychiatric therapy, she stopped having asthmatic attacks and in the two-year period following remained free of attacks except for one severe episode around Christmas. Her mother reported that she had become angrily assertive, seemed to be moody at times and at other times displayed a great deal of restlessness. At the time of this report the therapist noted periods of depression and anxiety. During the previously mentioned episode of wheezing at Christmas time, she was again stoic, passive and agreeable.

CASE 3. A 25-year-old psychology graduate student of very superior intelligence sought psychiatric treatment because of fears of homosexuality that had become apparent to him in his work. He was exceedingly psychologically sophisticated, and spent the early part of his therapy attempting to duel with his therapist on an intellectual level. His defense of intellectualization and rationalization kept him from having to deal with numerous unconscious conflicts that were disturbing him. After several months, the therapist noted that at last the patient seemed to be developing insight and to be looking at his own behavior patterns in a meaningful way. At this point, the therapist noted that the patient seemed to be having some respiratory difficulty, and the patient then volunteered that he was wheezing for the first time since his father died when he was 13 years of age. He then reported that he had been troubled with asthmatic attacks from a very young age, up until the age of 13 when he first became self-supporting following his father's death from cancer. It was subsequently noted by the therapist that when the patient seemed to be closest during the therapy hour to seeing some of the meanings of his conflicts, he would often begin wheezing.

CASE 4. A 25-year-old married man consulted a psychiatrist because of feelings of severe depression, secondarily indicating that he was habituated to a narcotic. During the course of his brief, dynamically oriented psychotherapy, he was able to completely cease using narcotics. His feelings of depression began to leave, and he then reported that the depth of his depression had been unknown to the therapist—that he had come close to suicide shortly after beginning treatment. He further reported that he had first started feeling depressed when as an adolescent he had decided to be "strong" and "unemotional" and had impulsively left home following an argument with his parents. He took a body-building course and felt that he became capable of defending himself against anyone and everyone.

During the course of his therapy, as his depression lifted, the patient reported that he had noticed the recurrence of asthma which he had had as a child. Further questioning revealed that he had been bothered with some asthma almost nightly as a child and adolescent, and that his asthmatic attacks ceased completely at the time he decided to be "strong" and impulsively left home.

COMMENT

One of the first reports of this phenomenon in the literature was by Saxl[16] in 1933. He reported a case of asthma alternating with manic depressive psychosis. Oberndorf[13] two years later reported a similar case. Kesselbaum[8] in 1936 reported ten patients with "dementia praecox" who had long histories of asthma which disappeared with the onset of mental disease. Gillespie[6] reported cases of anxiety attacks associated with phobic concerns which alternated with asthmatic symptomatology. MacInnis[11] in 1936 made a statistical survey of the incidence of asthma in psychotic patients in hospital. Among 7,000 patients in two mental hospitals over a five-year period, there were only five cases of asthma. Three patients who had life-long asthma were relieved of this disease during their psychotic episodes, and when psychosis remitted the asthmatic symptoms recurred. Leavitt[10] in a study of 11,647 patients with functional psychosis found only ten cases of asthma, an incidence of 0.08 per cent. This was compared with an incidence of asthma in the general population of from 10 to 20 per cent. McAllister and Hecker,[12] studying the incidence of several kinds of allergic reactions among psychotic as compared with normal populations, confirmed Leavitt's findings.

Appel and Rosen[1] in 1950 found that asthmatic patients treated with corticotropin (ACTH) or corticoids might become psychotic upon the remission of asthma. Of course, since that time, the influence of corticoid substances alone in producing or precipitating psychotic reactions has become well known. Funkenstein[5] studied some aspects of autonomic function in patients with alternating psychosis and asthma. Using mecholyl and epinephrine injections and measuring various autonomic variables, including blood pressure and heart rate, he found that when patients were asthmatic they had pronounced parasympathetic sensitivity (easy induction of prolonged asthmatic attacks and sharp declines in blood pressure with mecholyl administration) and that this was reversed when the patient was psychotic. This was felt by the author to indicate a shift in autonomic balance which he believed to be associated with significant changes in psychic state. In a careful study of 32 psychotic patients, Sabbath and Luce[15] found no selective distribution of asthma among diagnostic categories. Studying the phenomenon of alternation, however, they found that asthma and psychosis could be coexistent in paranoid reactions, but in the rest of the patients the degree of asthmatic symptomatology varied inversely with the level of psychosis. More recently Knapp and coworkers[9] studied the personality variations with asthma and found that the reciprocal relationship between psychiatric symptoms and asthma appears to be a less clear-cut phenomenon. Some kinds of personality configurations had superimposed psychopathologic elements and asthma.

The most recent studies of this entity have shown that not only may frank psychosis alternate with asthma in some patients, but that more subtle, neurotic symptoms will become manifest in association with remission of asthma. Depression and crying,[3] open expression of anger[18] and impulsive destructive acts[7] have all been reported in asthmatic patients, occurring only during periods of remission of asthmatic symptoms.

The cases presented here cover a broad range of psychopathologic states as well as severity of asthma and serve to document that the inverse relationship between asthma and clinical psychiatric symptoms can be of wide variety and great degree. It would appear that physicians treating asthmatic patients should be alerted to and prepared to handle potential psychiatric complications that may appear in association with the medical management of a patient with asthma. In addition, in any "spontaneous" remission of chronic asthma, it would be wise to determine whether or not disabling psychiatric symptoms have taken the place of the wheezing.

If the physician is alert to the above possibilities, his own clinical judgment will help him decide whether the patient needs listening and support or psychiatric referral.

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A Study of Ovarian Thecomatosis

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• Among 205 ovaries with cortical stromal hyperplasia or polycystic changes, 52 showed excessive luteinization. The clinical and pathologic parameters investigated were not statistically different in the group with extensive thecomatosis. Hyperthecosis is considered as the functional variant of ovarian stromal hyperplasia which reflects a predominance of pituitary luteinizing hormone.

During the past several years ovarian thecomatosis or hyperthecosis has become a recognized pathological entity, but its functional significance is still unclear. Histologically it is characterized by hyperplastic sheets or nests of medium sized or large polyhedral cells, either spreading through the ovarian stroma or localized around unruptured follicles. These cells resemble the smaller luteinized thecal cells of a contemporary corpus luteum with round or oval hypochromatic nuclei and a pale eosinophilic, often foamy cytoplasm that stains positively for neutral lipid (Figure 1). The location of these aggregates of fat-containing cells varies, an aspect of the disease that is ably discussed elsewhere.[16] In the past, progestational and androgenic activities have been ascribed to these cells by different investigators, these attributes to some extent dependent upon whether or not the theca cell proliferation was associated with unruptured follicles.

It was of interest to determine whether, in cases of cortical stromal hyperplasia and polycystic ovaries, extensive thecomatosis was associated with a different clinical pattern of endocrine abnormality than when it was absent.

MATERIALS AND METHODS

Microscopic sections of surgically totally excised or wedge-resected ovaries that had been previously reported on pathological examination as showing either cortical stromal hyperplasia, polycystitis or thecomatosis were reviewed. There were 205 such cases in the files of the Pathology Department of the Massachusetts Memorial Hospitals and New England Deaconess Hospital. Slides were studied without reference to the previous diagnosis and then were compared and classified. When thecomatosis was present, it was graded as slight, moderate or marked, and its location was noted. All the additional pathologic material from each case also was reviewed. Subsequently, the clinical and particularly the endocrinologic findings in each case were reviewed and tabulated.

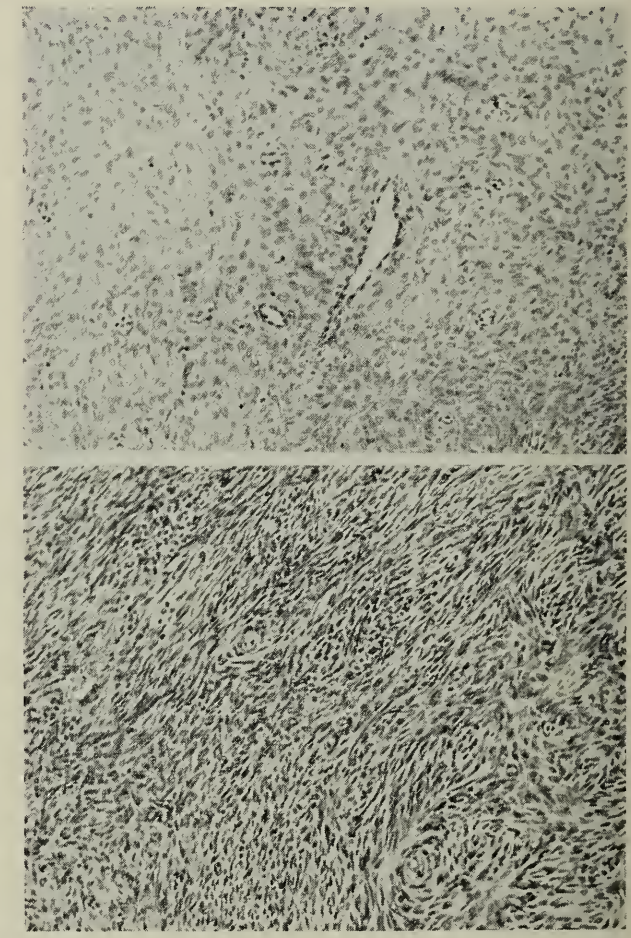

Figure 1.—*Above:* Moderate thecomatosis of hyperplastic ovarian cortical stroma is evident with routine hematoxylin and eosin stain. The stromal cells have more abundant cytoplasm, which is finely vacuolated, and the nuclei are enlarged and pale. Clear spaces occur between some of the cells (×120). *Below:* Ovarian cortical stroma without hyperthecosis is shown stained with hematoxylin and eosin and at the same magnification as above. The cells are smaller, closer packed and have darker more spindle-shaped nuclei (×120).

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RESULTS

The mean age of women with cortical stromal hyperplasia plus thecomatosis was 57 years (standard deviation ±11.4 years) as compared with 60 ±12.4 years in those with stromal hyperplasia alone. This is an insignificant difference.

Thecomatosis of moderate or marked degree was present in 48 of 163 cases (29 per cent) of cortical stromal hyperplasia and in 4 of 42 cases (10 per cent) of polycystic ovaries (Table 1). When thecomatosis was correlated with various clinical findings suggestive of endocrine abnormality, such as endometrial hyperplasia and excessive hirsutism, no statistically significant difference was found between the group with and that without thecomatosis. Similarly, there was no significant difference between the occurrence of genital, breast and gastrointestinal carcinoma in the two groups. Probability values (P) were all greater than 0.05 when the chi square test was applied.*

TABLE 1.—*Histologically Proven Cortical Stromal Hyperplasia or Polycystic Ovaries, 205 Cases*

	With Thecomatosis 52 Cases	Without Thecomatosis 153 Cases	Chi Square
ASSOCIATED CONDITIONS:			
Fibromyomata uteri	22	51	1.65
Total cancers	22	49	1.61
Genital, breast cancer	17	38	1.08
Endometrial hyperplasia	15	45	0.11
Hypertension	13	35	0.26
Endometrial cancer	7	11	2.54
Breast cancer	5	11	0.36
Diabetes mellitus	3	5	0.32
Obesity	3	20	2.28
Sterility	3	15	1.08
Ovarian fibroma	3	6	......
Ovarian cancer	3	5	0.32
Stomach cancer	3	3	......
Endometriosis	2	15	1.89
Hirsutism	2	11	0.88
Granulosa-Theca cell tumor	2	1	......
Esophageal cancer	2	0	......
Cervical cancer	0	10	3.71
Colon cancer	0	4	1.36
Brain cancer	0	2	......
Adrenal cancer	0	1	......

All probability values, more than 0.05

DISCUSSION

In experimental animals, anterior pituitary stimulation after certain hypothalamic lesions or parabiosis releases excessive gonadotropic hormones which may produce stromal hyperplasia and later an excessive luteinization in the ovaries. Usually pituitary follicle-stimulating hormone (FSH) induces hyperplastic ovarian stromal alterations first, and after some months a relative predominance of LH develops and hyperthecosis of the already hyperplastic stroma ensues. Injected unpurified pituitary extracts induce polycystic ovarian changes both in women and animals, and the association of luteinization is variable. This is believed to correlate with the relative abundance of pituitary luteinizing hormone (LH) in different hormone mixtures.

Both in experimental and clinical situations it is necessary to have uniform and reliable criteria for the pathologic diagnosis of ovarian stromal hyperplasia, polycystic ovaries and hyperthecosis. If the material is too casually prepared or interpreted, confusion may result. Also, original pathologic diagnoses from different laboratories are best not uncritically accepted without further inquiry or slide review to avoid drawing erroneous conclusions.

Hyperthecosis as yet is not sharply distinguishable by the usual staining methods from other types of pale epithelioid cell proliferations in human ovaries. Hilar Leydig cells without Reinke crystalloids, fuchsinophilic or clear cell adrenal rests, and arrhenoblastic, androblastic or Sertoli-cell proliferations in the ovary may be very difficult to differentiate. One is most certain of hyperthecosis when pale eosinophilic epithelioid sheets are found merging with typical hyperplastic nodular ovarian stromal masses and hyaline fibrotic bands reminiscent of true neoplastic thecomas.

Cases reported years ago as ovarian hyperthecosis with masculinization thus cannot be completely accepted as such in the absence of some more definitive histologic or cytologic diagnostic criteria. Biosynthesis experiments are beginning to reveal many functional surprises in ovarian hyperplasia and neoplasms, so that morphologic classification no longer stands alone in this field.

Reports that Krukenberg tumors sometimes show thecomatosis and associated masculinization which is relieved by bilateral oophorectomy[6,17] may indicate that even a local response of the ovarian stroma to irritation can take the form of functioning thecal hyperplasia. Hyperplastic thecal changes may occur in the newborn, in the premenarchal age group,[4] and in the menopause, as well as in the childbearing age group. There have been reports of its association with androgenic changes during pregnancy,[1] and one report of it in a mother and her daughter.

The total 17-ketosteroids are almost never elevated in masculinized patients with thecomatosis, but fractional analysis is more informative than the total levels. Lanthier[10] and others have studied fractionation patterns in polycystic ovaries with hyperthecosis without finding any consistent pattern. In most of the cases in the present series such studies were not done.

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*The chi square statistical method compares the individual cases of two groups that possess or lack some attribute of interest. By a mathematical formula the chi square value is determined numerically. Tables are available with which it can be determined how often chance would account for the observations. Usually statistical significance is not considered as established unless the probability of a chance occurrence (P) is found to be less than 1 in 20, 0.05.

Since hyperthecosis manifested no statistically significant distinction from ovarian stromal hyperplasia without thecomatosis, it is probably best regarded as a functional variant of stromal hyperplasia. Relatively more pituitary LH stimulation and a proportionately greater progestin secretion by the luteinized ovarian stroma may reasonably be inferred. Progesterone, even in large doses, is evidently not carcinogenic and commonly produces no special histopathologic changes other than a pseudodecidual reaction in the endometrial stroma and certain other sites.

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Tetanus Prophylaxis in the Unimmunized

Administration of Oxytetracycline and Intradermal Toxoid, With Restricted Use of Tetanus Antitoxin

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• Prophylactic tetanus antitoxin is ineffective in the prevention of experimental tetanus. That this may be true clinically is indicated by the fact that there are increasing numbers of cases of tetanus in humans after prophylactic tetanus antitoxin. Despite this known ineffectiveness and the high rate of reaction to antitoxin (5 per cent), many physicians continue to use it prophylactically, apparently for medical legal reasons. Since tetanus in civilian wounds is so rare, occurring approximately once in every million wounds, the routine use of tetanus antitoxin will probably cause more harm than good.

It has been demonstrated experimentally that oxytetracycline is the most effective antimicrobial in the prevention of tetanus. It is, therefore, believed that adequate tetanus prophylaxis may be obtained by meticulous debridement and cleansing of the wound, by the administration of 1 gm. oxytetracycline daily for five days, and by intradermal administration of tetanus toxoid on the first, fourth and seventh days. Tetanus antitoxin is not given unless contaminated wounds have ben neglected for eight hours or more. In these instances, 15,000 units or more of tetanus antitoxin is given.

Tetanus toxoid remains the best wound prophylaxis and greater emphasis should be placed on immunizing entire populations.

TETANUS TOXOID is universally recognized as the most effective prophylaxis against tetanus. Routine immunization with this agent would practically eliminate the threat of tetanus. However, nearly 50 per cent of the patients encountered in private emergency rooms have either not received tetanus toxoid or have allowed their basic immunization to lapse. Because of lack of immunization, there is a constant threat of tetanus during the management of minor wounds. Therefore, a discussion of tetanus prophylaxis in the unimmunized is as pertinent now as it was before the introduction of tetanus toxoid.

Tetanus antitoxin administered prophylactically in amounts of 1,500 up to 20,000 units or its equivalent is ineffective in the prevention of experimental tetanus.[1,13,17] At best, it merely delays the onset of fatal tetanus. There is a growing body of evidence that this situation prevails also for clinical tetanus.[5-12]

It is our opinion that it is mainly for one reason that the great majority of physicians probably still are using antitoxin for tetanus prophylaxis, as is presently advocated, although to do so may be useless and is definitely dangerous. That reason: Fear of legal action for deviation from traditional therapy. Hence the present communication, dealing in detail with the ineffectiveness of prophylactic tetanus antitoxin and suggesting a method that is effective in animals and safe for humans. Its effectiveness for humans is presumed, but can only be determined by therapeutic trial.

Equine tetanus antitoxin was first widely employed in the British Armed Forces during World War I. With its employment the incidence of tetanus decreased from 31 per thousand wounded to approximately 2 per thousand wounded and antitoxin was hailed as an essential to prophylactic therapy.[3] However, in retrospect, wound management with wide debridement and packing with secondary closure was probably the most effective modality.

It is not possible to predicate 31 cases of tetanus for each thousand civilians wounded because of the differences in the severity of the wounds and the mode of contamination. On the contrary in unimmunized civilians, tetanus occurs rarely, considering the number of minor wounds. The proportion of minor civilian wounds complicated by clinical tetanus has not been reported. However, it can be conservatively estimated, by the following deductions, to be approximately one case of tetanus for each one million wounds. Excluding children, armed forces and veterans (immunized), there are approximately 300,000 persons in metropolitan San Diego who are susceptible to tetanus. If two minor wounds occur monthly for each person (a very conservative number since any disruption of the epidermis if suitably traumatized and contaminated may develop tetanus), then 7.2 million opportunities for tetanus occur yearly in this segment of the population. However, in the entire San Diego

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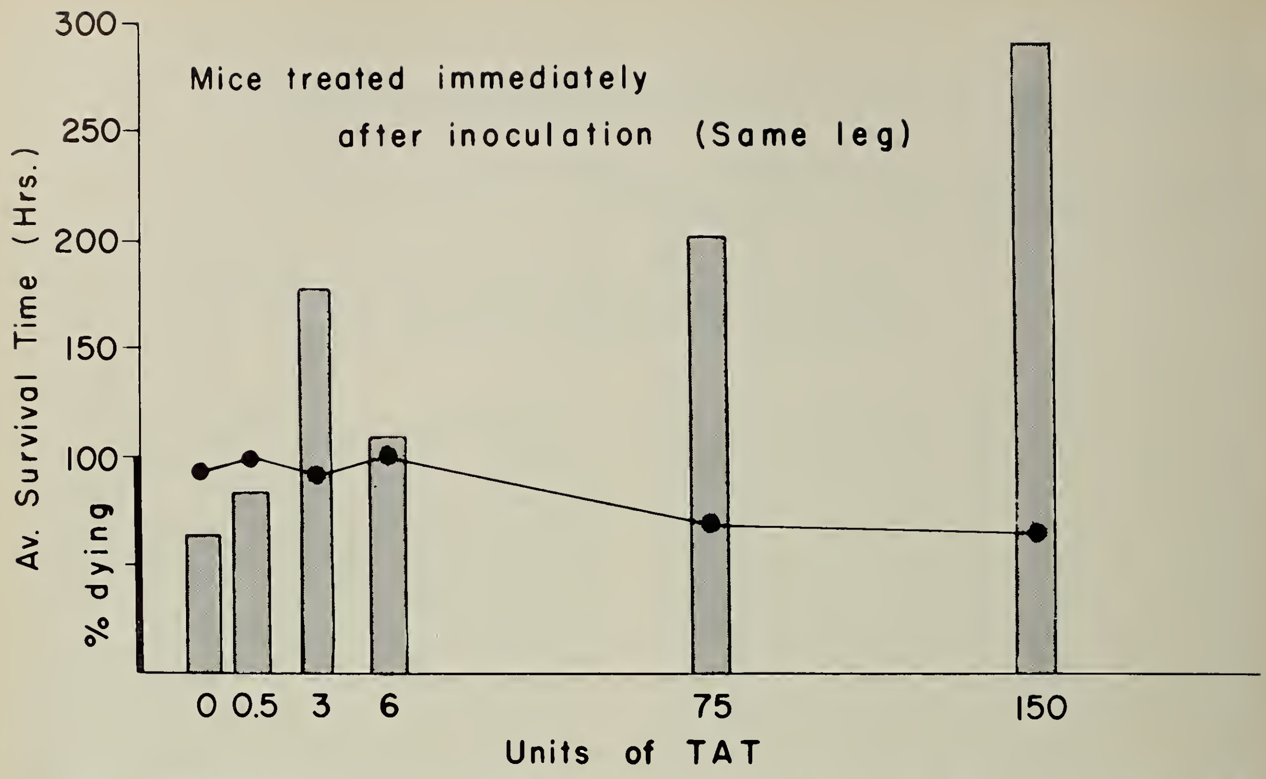

Chart 1.—Tetanus antitoxin (TAT) in doses up to 300 units per kilogram of body weight (6 units, average human equivalent of 21,000 units) given to mice immediately after inoculation of 10 spores results in no survivals and only a slight increase in survival time. Even with amounts of 3,750 units per kilogram (75 units, average human equivalent 262,500 units) less than half of the mice survived. This dosage did further increase the survival time in the mice that died. (The line graph indicates per cent of animals dying and the superimposed bar graph indicates the average number of hours of survival. Forty-two controls were used with an average of five animals in each test group.) This experiment indicates that in mice antitoxin when given immediately in the usual clinical dosages is not effective in preventing tetanus. It is not until nearly equivalent human therapeutic levels are reached that an appreciable decrease in mortality and lengthening of survival time occurs. In the usual clinical dose about the best that can be said for antitoxin is that it delays death from tetanus.[13]

County (population one million), the incidence of tetanus is approximately 1.5 cases a year. Although this estimation can only be approximate, it points to the amazing rarity of clinical tetanus in proportion to the number of injuries. Therefore, the chances of treating a wound destined to develop tetanus are literally one in a million.

Martini[12] and Condit[5] noted 34 cases of tetanus in persons who had received 1,500 units of antitoxin on the day of wounding. In addition, Condit mentioned three cases of tetanus after 3,000 units of antitoxin and one case after 4,500 units of antitoxin. (Several of Condit's cases may be duplications of Martini's.) By itself, this number of failures of antitoxin is not impressive. However, considering the rarity of the tetanus-destined wounds and since many other instances have probably occurred and have not been reported, even this number is significant and is strong evidence that in a person subjected to an inoculation of clostridium tetani spores and having wound conditions ideal for the disease, tetanus will develop despite the use of tetanus antitoxin in the dosage ordinarily employed.

Although it has been recognized for some years that, as now employed clinically, prophylactic tetanus antitoxin is not effective in animals, it is odd that more credence has not been given to this finding[1,13,17] (Chart 1). Continued use of tetanus antitoxin is even more questionable when consideration is given to man's extreme sensitivity to tetanus toxin contrasted with the resistance of the experimental animals tested. In short, one could expect prophylactic tetanus antitoxin to be less effective in the human subject. Another strong deterrent to the clinical employment of equine tetanus antitoxin is the relatively high morbidity and mortality rate associated with it. Although a complication rate of 5 per cent does not seem excessive, if one million contaminated wounds were treated to prevent one case of tetanus, there would be 50,000 complications from the antitoxin.[6,19] Approximately one-third of these complications would be so serious that hospitalization would be required for recovery.[6] The morbidity from bovine antitoxin is also 5 per cent or higher, so employment of this agent cannot be expected to decrease the complication rate.[14] Even if antitoxin were an effective prophylactic agent, the rarity of tetanus complicating minor civilian wounds makes this an unacceptable complication rate. Emphasizing the potential mortality rate are over 30 reported instances of deaths occurring after prophylactic injections of tetanus antitoxin; several of these occurred after the test dose in people who had supposedly never before received antitoxin.[4]

This routine employment of a potentially dangerous and experimentally ineffective agent is all the more ironical when an experimentally effective agent with extremely low side reactions has been known for almost ten years.

In 1950, the susceptibility of clostridium tetani to oxytetracycline (Terramycin) was recorded.[2] In 1954, oxytetracycline's extreme effectiveness was demonstrated even when given as late as 16 hours after spore inoculation in mice.[11] In 1956, oxytetracycline even in subclinical doses was again shown to protect hamsters from tetanus.[1]

In spite of recommendations for the use of penicillin in the prophylaxis of tetanus,[8] penicillin or its combinations in experimental tetanus is never totally effective if administration of it is delayed more than a few hours, and if as much as 12 hours passes before it is given it may not be effective in doses a hundred times the human equivalent.[1,13,17] Even when given immediately after tetanus spore inoculation into hamsters, doses of 128,000 units of procaine penicillin per kilogram of body weight (8.9 million units average human equivalent) were required to prevent tetanus consistently.[1] What the dose would have to be in patients seen hours after wounding is not determinable, but undoubtedly proportionally greater amounts would be required —amounts not usually given or calculable. That penicillin which is generally ineffective in experimental tetanus will continue to be ineffective in human tetanus is further supported by a recent report of two cases of fatal tetanus after massive amounts of penicillin.[18]

Perhaps one reason for the ineffectiveness of benzathine penicillin in experimental tetanus is the relatively low blood levels contrasted with the effective in vitro level and the inability to maintain this level.[1,16] Although penicillin is sporicidal in vitro, these high levels that are necessary are not attained in vivo.[1]

In contrast, adequate blood levels of oxytetracycline are reached and maintained clinically quite easily by either oral or intramuscular administration in the usually given dosages.[1,9]

Because of a number of variables, it is difficult indeed to transfer any experimental results to clinical situations. As far as is known, the mechanism of tetanus is the same in experimental animals as in man even though incubation periods vary widely. Man, however, is twice as susceptible to tetanus toxin as the guinea pig and four times as susceptible as the mouse. On the other hand, the excretion rate of penicillin in mice is at least four times that of man.[7] Whether oxytetracycline would prevent clinical tetanus as readily as it does experimental tetanus is an unanswered question. However, it would seem illogical and unreasonable to choose any but the most effective experimental agent, oxytetracycline, for clinical prophylaxis.

Even though signs of clinical tetanus do not occur usually until ten to fourteen days after wounding, this does not imply that spore germination occurs at this time. Rather, spore germination has occurred many days previously, since tetanus is a manifestation of accumulated toxin. Therefore, it can be expected that a five-day course of oxytetracycline would coincide with the emergence of the majority of the vegetative forms.

OXYTETRACYCLINE

Today we believe that oxytetracycline is the preferred agent in the prophylaxis of tetanus for the unimmunized patient. It is the only antimicrobial agent that can prevent experimental tetanus consistently when administered in clinical amounts and at reasonable times after wounding. Compared with either penicillin or antitoxin, anaphylaxis is practically non-existent and reactions when they do occur are usually minor.

During the last two years we have not employed antitoxin for routine prophylaxis in the wounded unimmunized patient. We have observed no cases of tetanus. Because of the rarity of tetanus it will require thousands of cases before any conclusion can be drawn on the effectiveness of a prophylactic program. Hence our small number of cases is not worthy of discussion.

Our program has consisted of the following: In dealing with small, clean wounds uncontaminated with dirt and treated within eight hours after the injury occurred we debride the wound carefully, irrigate copiously with saline solution and suture loosely. Tetanus immunizations are always commenced at this time. This consists of 0.5 ml. of aluminum phosphate toxoid given intradermally on the day of injury and on the fourth and seven days after injury. Protective titers are reported by perhaps the fourteenth day and at least by the twenty-seventh day.[10] Hampton and Hard's intradermal technique has been to divide 0.5 ml. of tetanus toxoid into three equal increments and inject these intradermally in three separate sites in the anterior thigh. The patient is cautioned at this time that erythema and slight blistering may occur. Like Hampton and Hard, we had no instances of serious skin slough or irritation. In addition, we noted that with the second and third injections of toxoid, erythema and pruritus of a minor degree occurred at the first injection site.

In our opinion, it would be a serious error not to begin active immunization on the first contact with the patient. Occasionally the patient will be unconscious or uncommunicative and it will be impossible to ascertain his true state of immunity. Many young adults who have not seen federal service have probably been immunized as children but are unaware of the fact. Frequently, the patient will be so terrified by the circumstances of the injury that he will be incapable of remembering even though he may have had recent immunization with toxoid. All of them will be spared the morbidity and mortality of antitoxin, besides being adequately protected, if given toxoid on initial contact. In the truly unimmunized patient, the time of treatment is the golden moment for the physician to impress upon the patient the seriousness of not being immunized and the attendant risks of tetanus. Realization of this will move most patients to complete an immunization program. One of the distinct advantages of Hampton and Hard's method of immunization is that the patient will have received all his immunizing injections while still requiring office visits for the care of his wound. In contrast, with the previous method once the sutures were removed and the wound had healed, the patient often found it inconvenient to return for monthly toxoid injections and so did not complete the immunization program.

In dealing with small contaminated wounds in the unimmunized patients seen within eight hours, wound debridement is followed by oral administration of 1.0 gm. of oxytetracycline daily for five days. If nearly eight hours has elapsed since wounding, the oxytetracycline may be given intramuscularly to obtain blood levels within a few minutes. In these circumstances also, immunization with intradermal toxoid is begun at the time of the initial care of the wound.

In experimental tetanus lethal amounts of toxin may develop as early as eight hours after spore inoculation.[13] Therefore, patients who are first seen eight hours or more after wounding, in addition to the foregoing are given, if the skin test reaction is negative for hypersensitivity, 15,000 units or more of antitoxin, the amount depending on the clinical situation. This is essential, since none of the modalities described in the preceding paragraphs will be effective against toxin in unimmunized persons.[11-13] We do not expect that even 15,000 units of antitoxin will prevent tetanus in any but the most minimally contaminated wounds. Rather, since it has been shown that the mortality of tetanus is directly proportional to the incubation period—the shorter the period, the more lethal the disease—we hope merely to prolong the onset of tetanus and thus lessen the mortality rate. To forestall medical legal difficulties, the patient is informed of the objectives of the treatment.

Individuals who have not renewed their active immunization within four years preceding wounding are given, in addition to local wound care, intradermal fluid toxoid, 0.5 ml., recent reports having indicated that immunity even after as long as 20 years may be restored by a single intradermal injection.[15] In cases of massive contaminated wounds, a five-day course of oxytetracycline is employed to allow time for the immunologic response to occur.

It is further recognized that in certain exceptional cases even this regimen may fail to prevent tetanus. This can be forecast since even tetanus toxoid, recognized as our most effective prophylactic agent, is not always effective. However, we firmly believe that this type of prophylaxis exposes the unimmunized patient to the least possible number of hazards and, based on experimental evidence, is for him the most effective prophylaxis currently available.

In the total prevention of tetanus the importance of active immunization with toxoid cannot be stressed too strongly. In Condit's review of 232 cases 65 per cent of the patients incurred tetanus from injuries so minor that medical care was not sought until symptoms of tetanus had already developed.[5] Therefore, no matter how effective our prophylactic measures become, the majority of cases will continue to occur unless the entire population is immunized. All physicians, regardless of specialty, must advocate toxoid immunization programs with renewed vigor if the incidence of tetanus is to be appreciably decreased.

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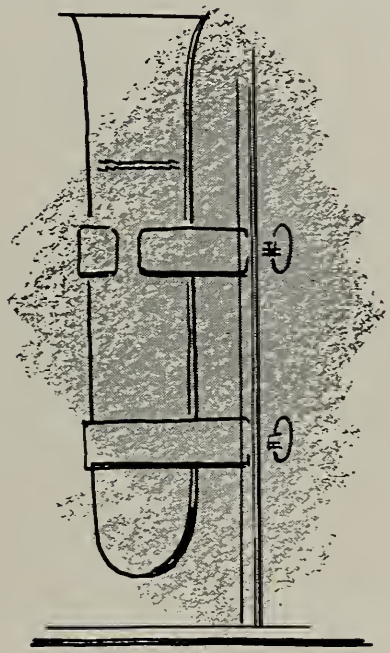

Dimethpyrindene

Use in High Dosage Hyposensitization Therapy; Prevention of Constitutional and Excessive Local Reactions

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• To give larger doses of antigen for hyposensitization, yet hold down constitutional reactions and excessive local reactions, the antigen was mixed with epinephrine, ephedrine and dimethpyrindene, the latter a new antihistamine, just before subcutaneous injection. Dimethpyrindene, a potent antihistamine with minimal side effects, was also administered orally. The incidence of constitutional reactions and excessive local reactions was considerably diminished. Larger doses of antigens were tolerated and longer intervals between treatments were possible, a point of particular significance in maintenance therapy. There was less pain and discomfort at the site of injection and clinical results were improved.

In the author's experience over a 25-year period the best results from hyposensitization treatment for nasal and bronchial allergic disease have been obtained on dosage just short of the amount producing constitutional reactions. Such doses often produce large local reactions, however, and, in spite of care, occasional constitutional reactions do occur. These constitutional reactions are annoying and uncomfortable but only rarely dangerous,[19] for usually the dosage of antigens is not increased by more than 50 per cent over the previously tolerated dose. Both kinds of reaction, local and constitutional, can be minimized by mixing 0.05 ml. of 1:1,000 epinephrine hydrochloride and 0.05 ml. of 4 per cent ephedrine sulphate in with the dose of antigen(s) just before injection. The former provides immediate and the latter sustained vasoconstriction, thus slowing the rate of absorption of the antigen(s). The amount of epinephrine used is only one-tenth the amount used subcutaneously to treat an actual constitutional reaction in an adult. Doses in the therapeutic range may produce unpleasant side effects and could adversely affect associated cardiac disease or hypertension.

Although the number of constitutional and severe local reactions was greatly diminished, the method described did not overcome the problems of local release of histamine and pain. This required an antihistamine and local anesthetic at the site of injection. Most antihistamines, fortunately, by virtue of their chemical structure (related to procaine) have local anesthetic properties.[8] By incorporating an antihistamine along with the vasoconstrictors and antigen(s) at the site of injection the swelling and pain incident to local histamine release can be minimized. Part of the local swelling and pain from antigen injection is due to the irritant effects of the antigen or the vehicle itself, but a large part is due to pressure on sensitive nerve endings by the local histamine-induced vasodilation and edema. The local blockage of histamine (or histamine-like substances) prevents the vicious cycle of released histamine damaging more cells and releasing more histamine. Fairly large amounts of antihistamines such as phenindamine,[13,14] chlorpheniramine,[17] thenylpyramine,[15] diphenhydramine,* tripelennamine,* and pyrilamine* can be administered in this manner but large amounts are usually unnecessary. The amount of antihistamine required to forestall or minimize reactions that extend beyond local boundaries is more sensibly administered orally in the form of repeat-action or sustained-action tablets or capsules a few minutes before injection.[1,7,8,9,12]

DIMETHPYRINDENE

In the study here reported dimethpyrindene was selected as the antihistamine for both subcutaneous and oral use because of its antihistaminic efficiency, adequacy of local anesthetic action, absence of toxicity and minimum of side reactions. Dimethpyrindene, designated as 2-(1-((2-(2-dimethylamino-ethyl)-3-indenyl))-ethyl-) pyridine maleate, is a colorless, crystalline compound of the indene series, approximately 0.5 per cent soluble in water at room temperature. Both crystals and solutions are stable at temperatures in that range. The acute toxicity of this drug in rats is midway between that of tripelennamine and chlorpheniramine.[5] There is no evidence in either animal or human experimentation of chronic toxicity.[4,5]

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*Used by author.

TABLE 1.—*Protection Against Standard Lethal Doses of Histamine*

Protective Drug Used (Orally)	ED_{50} Values (mg. per kg. of Body Weight) At 1 Hour	At 3 Hours	At 6 Hours
Dimethpyrindene	0.0664±0.011	0.243±0.037	3.0 ±0.33
Tripelennamine	2.63 ±1.25	11.4 ±2.6	....
Chlorpheniramine	0.116 ±0.035	0.648±0.070	2.33±0.14

18 guinea pigs were used in each group.

ED_{50}=Effective dose in 50 per cent of subjects.

The above tests were performed at the Research Laboratory of the Ciba Pharmaceutical Products, Inc., Summit, N. J., under the direction of A. J. Plummer, M.D., director of macrobiology. These animal data, reported Feb. 24, 1959, were accepted by the Federal Drug Administration as part of the New Drug Application for dimethpyrindene (Forhistal®). Reproduced with the permission of Ciba Pharmaceutical Products, Inc.

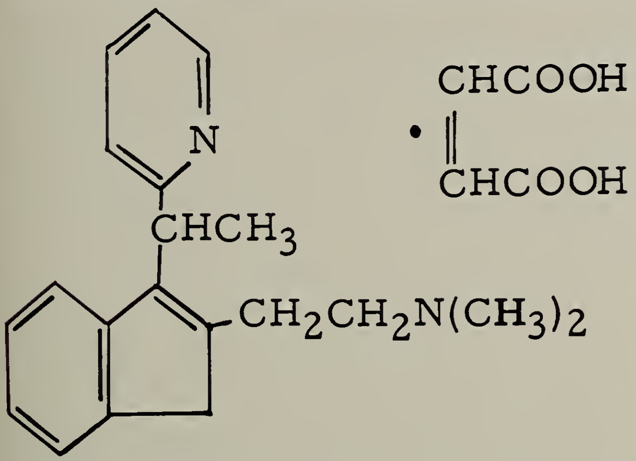

Chart 1.—Structural formula of Dimethpyrindene (Maleate).

The oral dose protecting 50 per cent of a group of guinea pigs against a standard lethal dose of histamine shows it to be superior in this respect to both tripelennamine and chlorpheniramine.[2,5] (See Table 1.)

Anti-anaphylactic activity was tested in guinea pigs sensitized by 0.5 ml. horse serum intraperitoneally by Plummer and his associates.[5] Three weeks later the same challenging dose of horse serum was given intravenously to four groups. In the control group one-half of the animals died. In the other three groups dimethpyrindene was given orally one hour before the challenging dose. At a dosage of 0.125 mg. per kg. of body weight mortality was reduced by half; at 0.5 mg. per kg. mortality was reduced by 80 per cent, and at 1.0 mg. per kg. complete protection was afforded.[5]

The author has used dimethpyrindene for oral symptomatic medication in a variety of allergic disorders in doses ranging from 1 mg. three times daily to 2 mg. every four hours with eminently satisfactory results.[10,11] The Council on Drugs of the American Academy of Allergy considers it an effective antihistamine with minimal side effects.[6] In addition, the independent observations of Bubert[3] on 73 patients, by Carpenter and coworkers[4] on 56, by Schiller[16] on 46, and by Thomas and Kelly[18] on 65 included a representative assortment of allergic conditions. These investigators were all in agreement that dimethpyrindene ranked with the most potent antihistamines and that its side reactions were infrequent. Drowsiness, the most common, occurred in approximately 8 per cent of cases and usually disappeared on a lowering of the dosage.

MATERIALS, METHODS, SELECTION OF PATIENTS

In order to draw any valid conclusions regarding results from data on hyposensitization treatment, four stipulations are necessary: The same type and concentrations of extracts must be used. The same physician (or group trained in the same way) must make the diagnosis and administer the treatments. Basic comparison data must be taken from years with similar patterns of rainfall, temperature, windiness and pollen production. The treated and control groups should have approximately the same clinical features, age and sex distributions, comparable occupations and home environments, and comparable sensitivities and known exposures to the culpable allergens. Ideally, they should not have had previous hyposensitization therapy.

1. The strength, source of materials and methods of preparation of the antigen extracts used have not varied for the past 15 years.† The concentrated extracts of pollens, animal danders and house dust, the most commonly used producers of constitutional reactions, were weight/volume extracts in 50 per cent glycero-saline solution. It was occasionally necessary because of special vocational exposures to use similar extracts of cottonseed and flaxseed, and dilutions of such concentrates of castor bean. All dilutions were made by using 0.4 per cent phenol in 0.9 sodium chloride. Although extracts of feathers and kapok were frequently necessary because of clinically verifiable allergy, they rarely caused adverse reactions during hyposensitization treatment.

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†All antigen extracts were personally prepared by the author.

The usual starting doses and maximal maintenance doses attained were as follows:

Antigen	Starting Doses in Milliliters	Maximum Maintenance Doses in Milliliters
Pollens	0.02 of 0.001% to 0.02 of 0.1%	0.05 of 1% to 0.6 of 5%
House dust	0.02 of 0.125% to 0.02 of 1.25%	0.2 of 12.5% to 0.8 of 12.5%
Horse dander	0.02 of 0.001% to 0.02 of 0.1%	0.2 of 0.1% to 0.1 of 2%
Other danders	0.02 of 0.005% to 0.02 of 0.5%	0.03 of 5% to 0.3 of 5%
Flaxseed and cottonseed	0.02 of 0.005% to 0.02 of 0.5%	0.1 of 0.5% to 0.2 of 5%
Castor bean	0.02 of 0.001% to 0.02 of 0.1%	0.02 of 0.1% to 0.4 of 0.5%
Fungus spores	0.02 of 0.01% to 0.02 of 0.2%	0.05 of 1% to 0.5 of 2%
Feathers	0.02 of 0.05% to 0.02 of 0.5%	0.1 of 5% to 0.4 of 5%
Kapok	0.02 of 0.03% to 0.02 of 0.3%	0.1 of 3% to 0.4 of 3%
Cotton linters	0.02 of 0.1% to 0.02 of 1%	0.2 of 1% to 0.2 of 10%

The intervals between treatments initially varied from one to four days. After maximum doses were attained the intervals ranged from two to six weeks.

2. In all cases diagnosis and estimation of degree of sensitivity were made by the author, who also administered all injections personally. All injections were subcutaneous, near the insertions of the deltoid muscles. The usual precautions were taken not to inject into a vein, and the patients were watched for suitable intervals after the injections.

3. Data regarding temperatures, rainfall, relative humidity and windiness for the past 15 years were available from the records of the U. S. Department of Commerce Weather Bureau in San Francisco. The only records of pollen production useful for comparison were those of grass pollens. (This was fortunate, for grass pollens are by far the most important causes of pollen hypersensitivity reaction in the San Francisco area.) All factors considered, it was believed that 1951, 1954, 1955 and 1957 were the most comparable to 1960, the year the present special study on dimethpyrindene was conducted.

4. Of the 100 previously untreated patients in the 1960 series, 41 had seasonal or perennial allergic rhinitis, 42 had combinations of one or the other with varying degrees of asthma, and 17 had asthma alone. Multiple sensitivity to inhalants was the rule. House dust was a factor in 86 cases, grass pollens in 84, feathers in 42, kapok in 25 and animal danders in 14. Other allergens such as tree pollens, weed pollens, fungus spores, cottonseed, flaxseed, cotton linters and castor beans were less important numerically. Fairly numerous sensitivities to such common foods as milk, wheat, egg, orange, tomato, chocolate, nuts and seafoods were handled by elimination diets and were not tabulated.

Sixty of the patients were male, 40 female. Seventy of them were between 15 and 52 years of age, ten were 52 to 58, and 20 were 6 to 15. Comparison groups taken from previous years were selected to conform to these age and sex patterns and, in so far as possible, to clinical manifestations, sensitivities, residential areas and exposures. The author abandoned the co-seasonal and preseasonal methods of treatment years ago because conditions in San Francisco and environs tend to favor perennial or extended seasonal symptoms. No matter what time of the year patients started hyposensitization therapy, their schedules were designed to have them on perennial maximum maintenance doses as soon as possible. Because of the multiple sensitivities most patients required two injections at each visit.

Cases from 1951 and 1954 that were selected for comparison were those in which antigens were given only by injection without preinjection or postinjection antihistamine medication. In 1955 and 1957 two series were selected for comparison. In 1955 each dose of antigen or antigen mixture was mixed in the syringe with 0.05 ml. of 1:1,000 epinephrine hydrochloride and 0.05 ml. of 4 per cent ephedrine sulphate just before injection. In 1957 the antigen was given with the same admixtures but with a repeat-action antihistamine tablet, usually tripelennamine 100 mg., administered a few minutes before the (afternoon) treatment and repeated at bedtime and upon arising the next morning. For children the half-sized tablets were used.

In the 1960 clinical study the following routine was adopted: Five to ten minutes before treatment, sustained-action dimethpyrindene tablets were administered orally, one for a child and two for an adult. These tablets had an outer layer containing 0.75 mg. of the drug for immediate action, surrounding a core containing 1.75 mg. for sustained release over an eight to ten hour period. Thoroughly mixed in the syringe with each subcutaneous dose of antigen or antigen mixture just before injection was 0.2 ml. of the following: 1 part 1:1,000 epinephrine hydrochloride (0.1 per cent); 1 part 4 per cent ephedrine sulphate; 2 parts 1:500 dimethpyrindene (0.2 per cent). The treatments were given in the afternoon. The patients were instructed to take additional sustained-action dimethpyrindene tablets at bedtime and on arising the next morning. They were instructed to keep a written record of their local and constitutional symptoms for the next 24 hours and to take measurements of any local rubor and induration.

TABLE 2.—*Constitutional and Excessive Local Reactions with Different Methods of Administering Antigens*

Year	Number of Patients	Number of Treatments	Constitutional Reactions		Excessive Local Reactions		Method of Administration
			Number	Per Cent	Number	Per Cent	
1951	100	2812	32	1.14	192	6.83	Antigens only.
1954	100	2925	31	1.06	209	7.15	Antigens only.
1955	100	2796	12	0.43	126	4.51	Antigens with epinephrine and epedrine.
1957	100	2690	9	0.33	96	3.57	Antigens with epinephrine and ephedrine. Antihistamines orally.
1960	100	2179	3	0.14	48	2.2	Antigens with epinephrine, ephedrine and dimethpyrindene. Dimethpyrindene orally.

TABLE 3.—*Clinical Results in Allergic Rhinitis and Asthma with Different Methods of Administering Antigens*

Year	Method of Administration	Number of Cases	Results in Per Cent				Average Number of Treatments Per Year
			Excellent	Good	Fair	Poor	
1951	Antigens only	100	72	18	7	3	28.12
1954	Antigens only	100	74	15	8	3	29.25
1955	Antigens with epinephrine and ephedrine	100	79	12	5	4	27.96
1957	Antigens with epinephrine and ephedrine. Antihistamines orally	100	86	7	4	3	26.90
1960	Antigens with epinephrine, ephedrine and dimethpyrindene. Dimethpyrindene orally	100	91	4	2	3	21.79

REACTIONS AND RESULTS

Local reactions in which the area of induration was more than 6 cm. in diameter, accompanied by appreciable pain or discomfort, were considered excessive. Generalized urticaria with or without angioneurotic edema, generalized pruritus, decided rhinorrhea, or intense asthma of sudden onset coming on within four hours after the injection were considered constitutional reactions. Other symptoms such as headache, nausea and abdominal discomfort sometimes accompany the previously mentioned cardinal ones. The time limit allowed for appearance was extended to four hours from the usual 20 minutes for simple antigen administration for three reasons: (1) The vasoconstrictors slowed the rate of absorption of the antigens. (2) The protective action of the orally administered antihistamine relative to the intensity of the reaction in the arm was lowest from one and a half hours to three hours after the injection. (3) Whatever protection against systemic reaction was conferred by the small amounts of sympathomimetic amines administered with the antigen(s) was soon dissipated.

Patients were provided with two 1 mg. tablets of dimethpyrindene and were told to take them if they had any symptoms of a constitutional reaction and to report to the author immediately. This was done only five times and only three times were the tablets actually necessary. The patients in these three cases were given epinephrine subcutaneously after the height of the reaction had already passed.

Ordinarily the local reactions were quite mild. There was slight stinging or burning lasting from 15 seconds to two minutes at the time of injection. The onset of induration was delayed one to four hours, with the maximum usually occurring five to nine hours after injection. In almost all cases induration was absent after 24 hours. There were only 48 local reactions that could be termed excessive. The calculated incidence of constitutional and excessive local reactions shown in Table 2 was based on the number of treatments. If based on the actual number of injections given, the figures would be much lower, for, as was mentioned before, most patients received two injections at each treatment.

Although this was primarily a study of a method of minimizing local and constitutional reactions on high dosage hyposensitization therapy, the data on clinical improvement were of interest (Table 3). The author has used the following criteria for appraising benefit from hyposensitization treatment for the past 15 years:

Excellent: Complete relief of symptoms or occasional symptoms so mild as to require no symptomatic medication.

Good: Symptoms decidedly reduced and usually absent most of the time; symptomatic medication occasionally required.

Fair: Significant reduction of symptoms satisfactory to the patient; symptomatic medication often required.

Poor: Little or no effect upon symptoms; medication always necessary.

The data indicate that the method of antigen administration described (and used for one year) has the following advantages compared with the average experience with simple antigen administration in 1951 and 1954:

1. Only one-eighth the incidence of constitutional reactions.
2. Less than one-third the incidence of excessive local reactions.
3. A 24 per cent reduction in the number of treatments. The larger doses which the method enables the patient to tolerate permits a longer interval between maintenance treatments. A more rapid rate of increase in dosage was also possible.
4. There was an appreciably higher proportion of "excellent" clinical results, with the "good" and "fair" groups correspondingly reduced.

There were additional good features—less pain and discomfort at the sites of injection, increased peace of mind for patient and physician with regard to constitutional reactions and less need for adjuvant symptomatic medication.

In 1955 and 1957, the years of the intermediate steps leading to the method used in 1960, the results were also intermediate, those of 1957 being superior to 1955. The incorporation of epinephrine and ephedrine with the antigen (as in 1955) made a difference in the number of constitutional and excessive local reactions but did not reduce the number of treatments required. The addition of the oral antihistamines (as in 1957) gave further improvement in the incidence of both types of reactions, but again did not significantly affect the number of treatments given or the amount of antigen tolerated.

No evidence of hepatic, renal or bone marrow toxicity from the use of dimethpyrindene was noted in the present series. Carpenter and coworkers[4] also noted this absence of toxicity. The only side effect observed with dimethpyrindene was slight drowsiness in 5 per cent of the patients. It was never a bothersome feature requiring discontinuance.

Although the objection might be raised that the patient's true degree of reactivity to the antigen(s) is masked by the incorporation of vasoconstrictors and antihistamine, an experienced allergist is able to anticipate from the history and tests which patients might have troublesome reaction. In the present series the first few injections of antigen(s) were usually given without admixtures so that reactivity could be determined. Even with admixtures and concurrent antihistamines, injectable or oral, the patient's reaction to each treatment still serves as a guide to the next.

Ninety-four of the 100 patients treated in 1960 have continued maintenance treatment on their maximum tolerated doses. (Data for 1961 are of interest, since perennial and seasonal factors remained essentially the same as in 1960. Eleven hundred thirty-four treatments were given without any constitutional reaction and only 11 excessive local reactions—0.97 per cent.) The intervals between treatments varied from 14 to 42 days, the average being 30 days. All the patients had excellent results (90 cases) or good results (4 cases). These limited data would indicate that the average patient (with multiple sensitivities) in this group treated by the 1960 method requires only approximately 12 treatments a year to be maintained in comfort after the first year.

450 Sutter Street, San Francisco 8.

Oral and injectable forms of Forhistal® brand of dimethpyrindene were provided through the courtesy of Ciba Pharmaceutical Products, Inc. of Summit, New Jersey.

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Hypercholesterolemia

Use of Niacin and Niacin Combinations in Therapy

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• Niacin or niacin combinations were administered in dosage of 1.0 to 6.0 gm. to 31 hypercholesterolemic patients for periods up to three years. Eighty per cent were able to continue medication for long periods without significant side effects. Jaundice, apparently due to nicotinic acid, occurred in one patient. Liver toxicity will probably be a hazard in the use of this therapy.

Significant and maintained serum cholesterol depression was achieved in 80 per cent of the patients who were able to take adequate dosage. Reduction in xanthomata was observed with cholesterol reduction. In some cases, when larger doses were not tolerated or were unsuccessful, combining 1.5 gm of niacin with small doses of estrogen or triparanol achieved the desired effect. Aluminum nicotinate had no important advantage over plain niacin.

NIACIN ADMINISTERED in daily dosage of 3 to 6 grams brings about a definite reduction in serum cholesterol in most subjects. The precise mechanism of this effect remains to be explained. Both increased and decreased hepatic synthesis have been reported, depending on the experimental animal used and the conditions of the study.[8,11,18,19] In man there does not appear to be any increase in bile acid or sterol excretion in the stool.[6] It has been suggested that in rats and rabbits nicotinic acid achieves its results only by inducing anorexia.[5] The clinical usefulness and potential toxicity of long-term treatment are still in doubt.

This is a report concerning 31 patients treated for periods up to three years with niacin, aluminum nicotinate,* or combinations of aluminum nicotinate and estrogen† or triparanol.‡

METHODS AND MATERIALS

Patients were all male Veterans Administration out-patients or private patients who had cholesterol levels before treatment greater than 270 mg. per 100 cc. of blood. The age range was from 6 to 62 years. Twenty-three had had myocardial infarction while the others had cholesterol deposits in the skin or tendons, or were known to have familial hypercholesterolemia.

In light of known vagaries in determination of serum lipids,[17] measurements were performed at least three times, each time in duplicate, over at least a two-month period to establish the level before treatment—the control level. Because of the great variability in lipid levels in the two months following myocardial infarction,[16] no control measurements were included for this period. Determinations of lipids were carried out again at 2 to 6 week intervals after the start of therapy.

The Kingsley technique[10] was used for total serum cholesterol measurement. At present we achieve a reproducibility of ± 8 mg. of 100 cc. with this method. A comparison of this method with the Abell method on 50 samples over a wide range indicated that the amount as determined by the Kingsley method averages 14 per cent higher. A modification of the Jencks and Durrum[9] technique was used for electrophoresis and staining.[16] Except for the two patients noted, diets were stable during the treatment period. Also, with one exception, weight did not vary more than 5 per cent during the study period.

RESULTS*

A. Niacin alone

Nineteen patients were given plain niacin in 3 gm. to 6 gm. doses daily. Sixteen of them were able to continue the drug in adequate dosage with the following results:

1. *Lipid changes.* Thirteen subjects maintained reductions of serum cholesterol of 20 per cent or more below the control level, six having reductions greater than 30 per cent. It should be emphasized that these are persisting decrements and that the lowest single cholesterol level achieved during the therapy was often more than 50 per cent below the control. When niacin was temporarily discontinued in four patients there was a return to control levels in one month. Of the three unresponding patients, one had idiopathic hyperlipemia, one

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*Aluminum nicotinate supplied as Nicalex® by Walker Laboratories, Inc., Mt. Vernon, N. Y.

†Estrogen supplied as SC 9263 (which is 16-alpha-chloro-1,3,5-estratrien-17-one-) by G. D. Searle Co., Chicago.

‡Triparanol supplied as MER/29® by Merrell Co., Cincinnati.

*Tables containing specific data may be obtained from the author.

familial hypercholesterolemia and the other had had an uncomplicated myocardial infarct.

Ten of the 13 patients who had favorable cholesterol effect also had changes to normal in their alpha:beta lipoprotein ratio, either by increased alpha, decreased beta, or both.

2. *Xanthomata.* Six patients had xanthoma tuberosum, tendinosum or xanthelasma at the start of therapy. In one, the xanthelasma completely disappeared and in two there was measurable reduction of the tendon deposits. One man had xanthomata removed before therapy was begun and at last report, after nearly two years, there had been no return.

3. *Angina, intermittent claudication and peripheral pulses.* There was no change in the single patient with absence of leg pulses even though cholesterol was maintained below 200 mg. per 100 cc. for two years. Although a decrease in angina was reported by a few patients, no convincing evidence of change was noted.

B. Aluminum nicotinate

Thirteen patients were given this medication. Three patients who could not tolerate niacin because of nausea and vomiting were also unable to tolerate aluminum nicotinate. Eight subjects were able to maintain therapy. Of these, four had maintained cholesterol depressions of greater than 20 per cent, along with favorable lipoprotein alteration. Three of the nonresponders were children of a hypercholesterolemic family who were unable to tolerate more than 1 gm. daily.

No effect on the peripheral pulses or exercise tolerance of one peripheral atherosclerotic patient was noted despite good cholesterol depression.

C. Aluminum nicotinate plus estrogen (designated SC 9263, which is 16-alpha-chloro-1,3,5,-estratrien-17-one-)

Two patients were started on this combination as their initial therapy; five were so treated when the full dose of niacin was not tolerated or when niacin alone either failed to reduce the cholesterol or to increase the alpha:beta lipoprotein ratio. Dosage of aluminum nicotinate was 1.5 gm. or 3 gm. daily, and of SC 9263 5 mg. daily. Four patients had persisting cholesterol reductions of more than 20 per cent and 5 had lipoprotein shifts.

D. Niacin plus triparanol (MER/29®)

Two patients were given MER/29®, 250 mg. daily with niacin 1.5 gm. daily. This was done when an effective niacin dose could no longer be tolerated and after it was determined that MER/29 alone (250 mg. for two months) was without effect. In both cases, successful reduction in cholesterol occurred.

E. Side Effects

1. *Nausea and Vomiting.* Three patients were unable to take more than a few doses of niacin because of this symptom. Nor could they tolerate the medication when aluminum nicotinate was substituted for niacin. Doses of 500 mg. were tolerated but were ineffective. In two men nausea and vomiting developed later, in one after three weeks and in the other after 84 weeks of therapy. Again the aluminum salt was not better tolerated.

2. *Flushing.* Flushing of mild to severe intensity occurred in all patients during the first week. Thereafter, the flushing was mild and intermittent and in no case was it a cause for discontinuing treatment. Aluminum nicotinate administration produced only slightly less flush than niacin. Taking the medication without food resulted in severe flushing from one to three hours later. If the evening meal was small, patients were occasionally awakened at night with flushing.

3. *Epigastric burning* occurred in three patients, two of whom had a history of duodenal ulcer and one of whom was an alcoholic. Distress was not controllable with antacids and in one case was severe enough to lead to discontinuing medication.

4. *Jaundice.* In one of the early patients in the series jaundice developed at 70 weeks. This was believed to be owing to drug-induced intrahepatic cholestasis and was reported upon in detail elsewhere.[15] Because of this experience, SGO-transaminase and alkaline phosphatase were measured every three to four months in all patients. No abnormalities were noted. Bronsulfonphthalein determinations were not done, nor was liver biopsy carried out.

5. *Typical hives* developed in one patient after two doses.

With two exceptions, diets were stable during the treatment period. Most of the patients were on standard, American, high-fat diets, and the medication was as effective in these patients as it was in patients on restricted diet. One patient changed from restricted saturated fat to regular diet during treatment without negating the niacin effect. Another, however, had a sharp rise in cholesterol upon liberalization of diet, with a rapid gain of 18 pounds in body weight.

Aluminum nicotinate had the same cholesteropenic effect as equivalent doses of niacin. Patients intolerant to niacin because of nausea, vomiting or epigastric burning were also intolerant of the aluminum salt. There appeared to be slightly less flushing with aluminum nicotinate. Although a 1.5 gm. dose was tolerated when a 3 gm. dose was not, this smaller amount was ineffective except in one instance. When 1.5 gm. of niacin was combined with either a small dose of estrogen or MER/29 (neither of which alone was effective) a lipodiatic effect was achieved in five of six trials.

DISCUSSION

The decision as to the wisdom of using niacin therapy turns on the question of serious toxicity. Will important liver damage occur?

The case in which jaundice occurred in the present series, and the reports of other investigators regarding overt jaundice and abnormal liver function tests,[3,12,13] call for caution. While it is true that in each case the jaundice was reversible, and that in many cases enzymatic abnormalities of liver function appeared without histologic abnormality on liver biopsy, in at least one biopsy considerable parenchymal damage was seen.[4] We used only the alkaline phosphatase and SGO transaminase as screening procedures and detected no abnormalities in our other patients. These liver changes suggest, of course, that niacin is effective by virtue of some interference with liver synthesis of cholesterol. Such findings, plus the failure to observe reduced appetite or weight loss in patients, makes the Friedman suggestion[5] of anorexia as the mechanism of niacin-induced hypocholesterolemia, untenable for man.

Apparently clinically insignificant abnormalities in sugar tolerance and uric acid levels have been noted by other investigators.[3,7,13]

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Sociocultural Aspects of Aging

Medical Points of View

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In recent years the health needs of the aged population in the United States have received increased attention by the medical profession, social workers, politicians and the general public. It is a subject of much controversy, particularly as regards the mode of financing medical care. The health of the aged population includes more than medical care, as most physicians recognize; that is, health may be broadly defined to include mental and social as well as physical well-being. In these terms, it is pertinent to call attention to a considerable body of research literature concerning the sociocultural aspects of aging.

It might be well, however, to introduce this discussion by presenting some demographic data about the aged population. The large number of persons now categorized as middle-aged represent the "old-age" problem of the future. According to population experts the numbers and proportions of our older citizens will advance at a steady and firm rate.[9] In fact, the aged segment of our population has been the most rapidly growing since 1920, and all indications point to a continuation of this trend.

With respect to California the situation is somewhat different, in a number of unexpected ways. In past years California had a larger proportion of persons 65 years of age and over than did the United States as a whole. Now the proportion of this segment of the population is similar in proportion to that of the rest of the nation, and it is estimated that by 1970 only 7.4 per cent of the population of California will be 65 and over, in contrast to 9.1 per cent in the remainder of the nation.[2] On the other hand, although the older people in this state will be a smaller proportion of the total population by 1970, the actual number will increase rapidly with the increase in population. According to the California Health Survey, the number of people in the 65 and over age group is expected to increase by 80 per cent in the current decade.

The California Health Survey revealed that more than half of all women in California above 65 years of age are widows, and by age 75 two-thirds are widows. Because of present retirement practices in the age group 70 to 74, only a quarter of these men are still reported to be in the work force. Finally, about one-third of those 65 to 69, and almost half of all Californians over 70, live on a family income of less than $2,000 a year.

• The problems of the aged assume significance partly from the fact that numerically this segment of the population is expanding at a rapid rate, although in California their proportion of the total population is expected to decline. Further, our urban, industrial, changing society has created problems of abrupt social transition from productivity to retirement, often with an accompanying loss of role and status.

Several studies have pointed out that the problems of adjustment to new social roles for the aged vary for different occupational groups. Other studies indicate that activity *per se* is an important element in whether a person considers himself well, despite existing physical ailments. In addition, numerous research studies of personal and social adjustments of the aged suggest that living arrangements play an important function in the social and psychological well-being of elderly persons.

In the California statewide Survey of Illness of 1954-1955, the population surveyed was entirely outside of institutions. According to this survey, 70 per cent of the Californians over 65 reported some kind of illness in the four-week period preceding the interview. Most of this illness was chronic in nature; two-thirds of this group reported one or more chronic conditions.

When Does Old Age Begin?

If we were to ask a representative cross section of the population the question, "When does old age begin?" we would come up with a variety of answers, to be sure, but there would be one dominant theme; it would refer to a chronological period, such as age 60, 65, or 70. Some would respond by such answers as, "Whenever a person feels old." Commonly we tend to think of old age as associated with the chronological age of 65. The reasons for this chronological association are undoubtedly re-

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lated to current employment practices and the Social Security system of retirement benefits.

Apparently the aging process, although not clearly understood at present, begins at birth with certain structural and functional changes occurring in the various organ systems. Biologically, these changes can be investigated by more or less precise instruments and techniques. On the other hand, the sociological investigation of aging considers the person as well as the sociocultural environment with which he interacts. Aging, from the sociological point of view, must take into account the attitudes and values of society as well as the self-conceptions of the individual.

Aging, therefore, from the sociocultural perspective is defined by the value system of society and not by physical deterioration or by time. A person is sociologically old when he is so regarded and treated by the members of his society and when he defines himself as being in this category. Sociological interest in aging focuses upon the cultural value system that defines changes in status and role and upon the meaning of these changes to the aged themselves and to the members of their groups. Sociologists are concerned with the conditions under which self-conceptions change over time for varying groups. As such, their studies are complementary to the biological investigation of the aging process. Further, sociologists are interested in the problems of personal and social adjustment associated with this process.

Sociological Problems of Aging

The problems of aging are, in the sociological view, largely a result of two rather recent phenomena—the abruptness of the social transition from productivity to retirement and the loss of role and status that accompanies this. These problems are, in turn, a function of an urban, industrial changing society. Simmons[11] pointed out that in simpler societies and tradition-oriented cultures the aged rarely suffer the fate of loss of role and depreciation of status so common in our own highly developed technological civilization. In such societies roles may change but status may, in fact, increase.

In our own society the emphasis is on the independent conjugal, nuclear family; the family has even been defined in terms of the child rather than the parents who precede and endure beyond childhood. Not only have we been a child-oriented culture but the prevailing values have placed the emphasis upon youth and its associated characteristics at the expense of the concomitants of maturity. Furthermore, the trend toward having more children younger in life than previously tends to create a longer period of isolation for the aged after the children mature and marry. This tendency is further complicated by the heightened geographic mobility which increases the independence of the young. In addition, there is some evidence that the obligation to support aged parents is no longer firmly established in the mores.[6]

Social Status and Roles of the Aged

Social change in our own society has all but abolished the social roles formerly enjoyed by the aged in a less urbanized, handicraft-oriented society. The problems of adjustment to new social roles for the aged vary for different occupational groups. Apparently much of the satisfaction of professional workers comes from the status they derive from their role and their professional associates. In general, the problems of the older professional worker are personal problems. How can he maintain his self-conception and his status, and how can he fill the void that comes with leaving a "calling" to which he has dedicated his life? Most professional workers do not retire completely but taper off, slow down or take on a lesser and less demanding job.[1,8]

Old-age and retirement problems are quite different for an industrial worker. In terms of the status hierarchy, retirement from the job situation may not represent any definite stepping down, for he may already have viewed himself as "dispossessed" in terms of status. In contrast to professional workers, for industrial workers the loss of their economic role in society is usually abrupt, involuntary and irreversible. They have no halo of past achievement as the professional workers may have. The available data indicate that most persons forced into involuntary retirement undergo at least temporary maladjustments.[10]

For this group there is no substitute for gainful employment because of their economic need and also their limited range of interests, based upon old habits and customs. The day-care centers, as developed in New York City for persons of this group, appear to have been successful there, with a notable reduction in medical care needs among the participants and practically no cases of mental illness[13] requiring care in hospital.

Health and Adjustment of Older People

One of the big gaps in our knowledge concerns the health needs of older people. With the population over age 65 increasing rapidly and the length of life beyond 65 increasing, we should know more about the health status of this population, as well as its behavior with respect to health. In at least one study concerned with the health needs of older adults it was found that these people defined health in terms of being active. That is, activity *per se* allows older persons to satisfy their need for independence and thus to live up to society's requirements. The members of this particular group often considered themselves well, despite ailments, as long as they were able to meet the requirements of everyday living.[5] Preventive medical care in the form of visiting a physician for routine medical examinations is not widely practiced by the older population. Studies in Baltimore, in Hunterdon County, New Jersey, and in Pittsburgh show that persons over age 65 are the most reluctant to take advantage of voluntary health examinations.[4] This practice seems particularly inappropriate for an age group prone to those diseases which have a slow and relatively inconspicuous onset. Here is an area of research in which the social sciences may contribute to ways to get elderly persons to make fuller use of existing health facilities and services.

A number of studies concerned with the personal and social adjustment of the aged in American society have been published and others are in process. All of these studies indicate that living arrangements play an important function in the social and psychological well-being of the elderly.[12] According to Cavan,[3] men in their own homes have a better status as to health, economic position, family constellation, activities and attitudes than have men in the homes of others, and boarding-house roomers rank last in these factors, detached as they are from family and friends. Cavan's study showed that the same rank-order of living arrangements held for women; the aged women living in institutions ranked last in personal and social adjustment, they being the most deprived in terms of personal contacts and activities.

In another study an experiment was undertaken to investigate and measure the effects of an activity program upon the socialization of residents of homes for the aged.[7] Two pairs of homes matched on a variety of characteristics were selected, one pair for the experiment, the other pair as controls. A before-after design was employed. Results showed that the introduction of activities programs into the old-age homes increased the socialization of residents and, consequently, the complexity of their group structure. In the control homes residents did not increase their social activities and tended toward social withdrawal with a corresponding tendency toward deterioration in group integration. Evidently, the mere living in congregate relationships in homes and institutions for the aged does not automatically provide for the socialization of residents; indeed, it may be that neglecting to provide outlets for activities that foster relationships with other people may result in isolation and purposeless living that would hasten the process of mental if not physical degeneration.

Physicians, more than any single group in society, are entrusted with the well-being of our population, and particularly of the aged segment of our society. If one of the goals of medical science is to make old age attainable, one of the social science objectives is to determine what makes old age satisfying.

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Functional Bracing of the Upper Extremity

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• Arm bracing problems, because of their complexity, need careful evaluation by a team of interested specialists in the field of medicine, physical therapy, occupational therapy, orthotics or prosthetics. The patient must always be a working member of this team. If the basic principles of evaluation, fabrication and training are followed and the motivation is good, success with specific goals may be expected.

A few arm brace situations as they reflect special problems are discussed in the hope of stimulating more interest in this fascinating field.

FUNCTIONAL ARM BRACING is an established tool in the armamentarium of the upper extremity prosthetist and the accomplished orthotist. However, the subject is not generally well understood.

Since the purpose of such bracing is to replace or reinforce lost motion, it is necessary to know the relative importance of upper extremity motions in functional arm use.

In order of their functional importance, these movements may be listed as *grasp, elbow flexion, forward flexion of the humerus, shoulder rotation, pronation and supination, trunk motion or stability, wrist extension and flexion, shoulder abduction, elbow extension* and *humeral extension.* It should be noted that many times stability is the functional equivalent of motion, especially if the stable position can be varied. This is most commonly seen in arthrodesis of a wrist, which holds the wrist in a position of function that permits better use of the hand, and in an elbow-lock for a fixed elbow position with an above-elbow prosthesis. In certain situations gravity can be used to provide necessary motions. It can be used for elbow extension, for example, and the position of extension can be varied by the resistance of the elbow flexors throughout different portions of the range. Gravity is of great assistance in providing pronation and it also provides the return to neutral from humeral forward flexion. The movements decided upon for replacement will depend upon a careful analysis of the patient and his proposed activities.

At the outset, emphasis should be placed upon the concept that success will depend on the cooperative evaluation, prescription and training of the arm-bracing team. This team must include the physician, therapist, prosthetist or orthotist and, last but not least, the patient himself. The physician must be responsible for the proper evaluation of the disease process, its possible progression and the work tolerance of the patient. The therapist must train the patient after the apparatus is provided and assist in the brace prescription. The prosthetist or orthotist must provide adequate, properly fitting and properly harnessed bracing, and the patient must provide motivation and effort to make the bracing work properly. For successful prescription, the patient must have some insight into his fundamental functional needs, and these needs must be respected by other members of the team, else the patient cannot be expected to maintain his motivation or to continue wearing a brace even if he should succeed in learning to use it. The chief factors of importance in evaluation of the patient can be divided into the following categories for more detailed discussion. They include:

- Evaluation of motor ability and disability.
- Evaluation of perceptual ability.
- Analysis of functional needs in their relative importance.
- Estimation of patient's "gadget tolerance."
- Estimation of patient's neuromuscular ability (coordination level).
- Estimation of patient's motivation.

Evaluation of motor ability (chiefly a physical examination)

In examining the patient, use of a muscle chart of standard type tends to make recording of the information complete and more precise than a running commentary, although the addition of a running commentary may add many important items not recorded on the standard muscle chart form. The range of motion of upper extremity joints should be recorded, for this will tell whether certain activities are possible, regardless of muscle strength. The information gained from examination of range of motion and muscular function is of importance to indicate that a joint can be moved through a certain range with a given force.

The authors wish to express their appreciation to the Veterans Administration, San Francisco Office, for its cooperation in allowing us to use cases under its jurisdiction, and especially to Mr. Philip Bray, Chief of Prosthetic Service, and Miss Lynn Ahrens, R.P.T., for their help.

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Evaluation of perceptual ability

It is important to know whether sensation is altered, since hypothesia or anesthesia may preclude use of certain brace apparatus, especially as it relates to grasp, and may prevent the patient's use of certain tools or equipment on a job. Of prime importance in brain damaged patients is an awareness of the involved extremity. It is essential that the team realize that a patient may not know where his hands and arms are in space unless he can watch them. He may be able to hold an object by voluntary closing of his hand or in a braced hand closed by motor power harnessed from the opposite and normal side, but unless he maintains conscious voluntary effort he may forget that he is holding something, and drop it.

It is also important in dealing with brain damaged patients to study voluntary range and the speed of voluntary control. Tremor, often an important factor in these patients, may be brought about and intensified in the hand and arm by concentrated effort on attempted use. To be successful, bracing for these patients must be kept to a minimum.

Analysis of functional needs and their relative importance

The patient has various functional needs which are easily determined by a comprehensive functional activity test and further elaborated by direct questioning of the patient. It is essential to recognize from the outset that arm bracing can never completely replace lost function, and that in replacing the most necessary functions, others may have to be foregone. Only the patient can know what he needs to accomplish most, and as nearly as possible the apparatus used to provide function must be designed to serve those needs. In the training program it is important that these be stressed.

Estimation of patient's "gadget tolerance"

In general, bracing should be kept to the minimum that will achieve the function decided upon. Additional brace equipment that adds only a little to function will probably be discarded eventually. It is important that the team estimate the patient's ability to wear the proposed bracing, his attitude toward it from a cosmetic point of view, his attention span and his willingness and ability to put up with minor and sometimes moderate inconvenience to attain his stated goal. This ability to wear equipment having varying degrees of complexity varies greatly between persons. Obviously a person who would be constantly frustrated by complicated equipment should not have it.

Coordination level

Some persons naturally have a fine sense of balance and easily learn to operate complicated mechanical apparatus, while others are hopelessly befuddled by even very simple equipment. All persons of average intelligence are able to learn to use arm-brace equipment satisfactorily, provided they have the will to do so, but the training period will vary depending on the natural coordinative ability of the patient.

Motivation

In the long run, the will to make good use of bracing apparatus lies in the patient himself. However, his attitude may be bolstered by the therapist and other members of the team. The long term use of brace equipment depends on the patient's need to accomplish certain functions and his willingness to put up with inconvenience to attain his goal. Choosing the proper brace for the patient and the condition is not always easy, even with careful prebracing evaluation. It may be necessary to change the harnessing or modify the brace construction as continuing contact with the patient emphasizes that the original conception represents an inadequate prescription for the patient's needs and falls short of real solution to the problem. One needs to keep his mind open to suggestions from the patient or other team members to accomplish optimum prescription and training proficiency. Thorough, supervised training in proper use of arm-brace equipment is mandatory, with the possible exception of such simple equipment as a tenodesis splint, and even here it is necessary that the patient understand the brace and how it works. Without supervision patients may learn to use a brace that has been well prescribed, but usually they develop bad use habits and often fail to realize the full potential of their equipment. The more complicated the apparatus, the more essential the need for training. Furthermore, a period of training under the direction of competent personnel allows an evaluation of the use, which often results in minor alterations of the brace and harness.

Effective arm-bracing prescription is more difficult than prescribing upper extremity prosthesis, for the arm proximal to the prosthetic device usually is properly stabilized or not damaged at all whereas usually in arm-bracing there is need to provide for stability of movement along the entire upper extremity kinetic chain. If the extremity is *flail*, grasp, elbow and shoulder motions must be considered and planned for appropriately. In such cases the remaining arm is used as a scaffolding and replacement or assistance is provided in multiple sites, as needed for function.

If there is only one joint in need of functional replacement or brace assistance, the task is relatively simple. The more brace segments needed, the greater the complexity of equipment and the more difficult the task of training. Good understanding of the patient's functional needs is of paramount importance, for the brace cannot restore all the normal abilities and choices have to be made. The appearance and weight of the apparatus is important to the wearer. It must not be too heavy to make wearing it tiring and uncomfortable. It should be acceptable cosmetically and, if possible, it should be worn under the clothing.

An ambulatory patient should be able to carry the equipment on his body. If the patient is wheelchair-bound, one can occasionally attach the equipment to the wheelchair or to some structure—a work-table, for example—in the area in which it is to be used.

Some observers have criticized arm-bracing on the ground that patients may discard the apparatus after a few years. Sometimes the reason is that the brace was a failure functionally and never fitted the patient's needs. In some cases, however, the patient may simply have become stronger or have found better ways of accomplishing the activity the brace was intended for. This is also true of leg-bracing, and discard of braces on the legs is usually applauded. It should be borne in mind that without proper bracing, there can be no start in the activity; with it, the activity becomes possible and gradually more easily accomplished. Of course, in some instances, the brace is permanently worn for the activities it was designed to accomplish. Occasional reevaluation is necessary, for patients' needs change, and also brace concepts and techniques improve as experience is gained. With reevaluation, proper brace adjustment or improvement may be made. Although not essential, it is helpful if the patient can put the equipment on and take it off. He should at least be able to take it off.

HARNESS

Proper harnessing, which is essential for brace utilization can be accomplished in many different ways, the way depending upon the circumstances.

The sources of motion are varied and include:

- Elastic supplemental force working against a remaining voluntary motion or gravity.
- Axillary loops, or axillary and humeral loops, or bilateral humeral loops.
- Chest-strap control, taking advantage of scapular retraction, protraction and elevation in combination with humeral forward flexion associated with contraction of the pectoralis major and other muscles of the chest.
- A perineal strap attached to a reaction point on the same or opposite shoulder.
- Nudge control, using chin and neck motion.
- Trunk flexion and extension and lateral bending.
- Normal knee, hip, ankle and foot voluntary range of motion transfer by direct control through a Bowden cable housing or through a reciprocating device.

There are five main categories or types of brace problems that confront the arm-brace team.

1. Flaccid paralysis with normal sensation, as in poliomyelitis and damaged motor nerves

Patients in this category have normal mentality, space perception and sensation, but they may have joint contracture and muscle contracture as well as paralysis. There may be total upper extremity paralysis, but usually some function remains, and often this can be augmented by proper functioning brace prescription and training. In general, grasp is more satisfactorily accomplished in this group by using hand braces rather than hooks. The sensation and friction of the skin of the hand can be used. The normal skin friction makes much less force necessary to accomplish functional grasp. The wrist is stabilized unless residual motor power is available there. Elbow function is gained through locking stability, by flexion assisted by rubber bands against gravity or by harnessing power from unaffected or nearly normal muscle function. Forward flexion of the shoulder is usually provided by rubber band tension, and shoulder rotation by the use of a friction swivel control unless the extremity falls into the useful position without such aid.

2. Flaccid paralysis with decreased or absent sensation, as typified by brachial plexus injury

Here there is need to provide greater stability throughout the upper extremity kinetic chain. A molded arm-brace with shoulder cap is best suited for cases of complete brachial plexus injury, but each case must be considered individually. In cases of partial brachial plexus injury when sensory loss is not a major factor, prescription may follow the lines already described with relation to poliomyelitic paralysis. Where there is serious hypoesthesia or anesthesia of the hand, however, a hook is almost always necessary.

3. Spastic paralysis with good sensation but altered space perception (brain damage)

Patients in this group are the hardest to help. Very careful evaluation is needed. Paralysis is often associated with uncontrollable tremor, and the shaking may be touched off or intensified by use of the extremity. Although in many cases paralysis is not complete, the motor power remaining is so poorly governed by voluntary control as to be useless for function. Sensation is also decreased although not absent. Severe brain damage with changes in normal affect is a frequent concomitant. Motivation is often most superficial.

More important than the loss of motor power is the loss of space perception and association. The body image is damaged, and the patient does not remember that his hand is closed unless he watches it, and thus he will drop objects entrusted to it unless he is very careful. In treating arms affected by uncontrolled tremor, our first thought was that the arm should be stabilized throughout to control the unwanted motion that occurred on attempted use, but it became apparent that this was not the right thing to do. The additional apparatus extending over the shoulder and elbow did not completely control the tremor. Its cumbersomeness, taken together with poor voluntary control, prevented accurate placement of the terminal device. For these reasons it was discarded except for the handihook, this being operated from the opposite shoulder through an axillary or humeral loop. As the handihook is used in the patient's lap or on a table in a fixed position, use of it does not call into play the process that touches off the tremor. Because of associated persistent wrist flexion, a wrist splint is usually provided with the hook. From a functional point of view, the hook becomes a holding device so that the other hand may work against the hook-held object. We have no experience with cerebral palsy hemiplegia, but feel that the situations here are quite similar to those of brain damage and the cerebral vascular accident.

4. Quadriplegic paralysis with altered sensation but no disturbance of space perception as seen in cord injuries

In this condition normal sensation is seldom retained and the handihook, unilateral or bilateral, operated by a shoulder harness, should be the logical choice. However, it is interesting to note that rarely does a person with quadriplegic paralysis continue to use hooks, even though he learns to use them easily and well. This probably is because the level of function remaining equals the increased dexterity minus the level of gadget tolerance.

Tenodesis splints are more acceptable when sufficient motor power and sensation remain. This may be because the retained functional level is above the hook level.

5. Segmental loss of bony continuity where external brace support spans the bony defect

This, in our experience, is limited to the humerus, and here the brace is often rejected, depending on the work needs of the patient. It is difficult to bridge effectively from the scapula to the forearm without any telescoping of the upper arm and still preserve maximum function. In the most successful case in our experience the patient had to settle for a fixed elbow position to accomplish function for a limited task.

Franklin Hospital, Fourteenth and Noe, San Francisco 14 (Schottstaedt).

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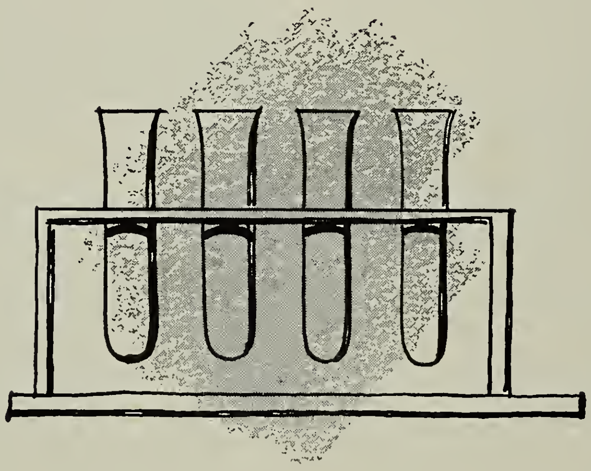

CASE REPORTS

Meigs' Syndrome: Report of a Typical Case

JOHN C. BUDICIN, M.D., and
WALLACE C. MARINE, JR., M.D., Los Angeles

In 1937 Meigs and Cass[2] reported seven cases of fibroma of the ovary associated with ascites and hydrothorax. They believed theirs to be the largest series ever reported. In 1954, Meigs[4] redefined the syndrome as being limited to cases with: (1) Either fibroma of the ovary, thecoma, granulosa cell tumor or Brenner tumor; (2) ascites; (3) hydrothorax; and (4) cure after the removal of the tumor. In the same year Meigs[5] reviewed reports of 84 cases of the syndrome as thus defined, the collection embracing all the English language literature and some of the cases reported in other languages. Since 1954, reported cases have been few.

One must keep in mind that almost any sort of ovarian lesion may produce ascites and hydrothorax. It has been reported that fibroma and fibroma-like tumors of the ovary are by far the most common cause of this syndrome, but among ovarian tumors in general they are of relatively low incidence. This seems to be indicative that there is something special about the ability of fibroma and fibroma-like tumors to produce ascites and hydrothorax. More important is the realization that these benign tumors can mimic a malignant lesion, often producing in the patient what appears to be a terminal state due to widespread metastatic process.

The cause of the ascites has remained a controversial subject. Wallingford[6] proposed a possible hormonal origin of Meigs' syndrome. However, the cause of the abdominal fluid is probably best explained by the older concept that the edema within the tumor is the source of the ascites. Numerous investigators have reported that most fibromas associated with Meigs' syndrome show microscopic evidence of edema; other observers, placing a fibroma in a dry receptacle, noted a reduction in the weight of the specimen due to a loss of fluid. Whether the edema is due to pressure of the firm tumor on the efferent blood and lymphatic vessels in the pedicle or hilum of the ovary or is brought about in some other way is not known.

The source of the fluid in the chest is less speculative. Meigs and others have shown with the use of electrophoretic protein determination that the chest and abdominal fluids are the same. Meigs, Armstrong and Hamilton,[3] and Lawson,[1] by means of India ink injection have demonstrated that the passage of fluid is from the abdomen to the chest and not the reverse. Cron, in discussing a paper by Meigs[5] mentioned a patient with an ovarian liposarcoma and associated extensive ascites and bilateral pleural effusion. Radioactive colloidal gold was injected intraperitoneally and recovered from the pleural cavities as early as two hours after administration.

The signs and symptoms of Meigs' syndrome are generally typical. Dyspnea, chest pain, evidence of fluid in the chest on physical examination, abdominal swelling and pain, and edema of the legs are all findings that should make the observer consider this syndrome. Neck vein distention, mediastinal shift, hepatomegaly, incontinence and frequency of urination, abnormal uterine bleeding of all types, and uterine prolapse have been reported as associated findings.

Confirmation of the syndrome may be aided by diagnostic studies demonstrating the tumor, ascites and hydrothorax. Cytologic examination of the abdominal and chest fluid help to rule out a malignant process.

Treatment of the patient consists of the removal of the tumor.

REPORT OF A CASE

A 73-year-old white widow was admitted, on referral, to the clinic service of the Queen of Angels Hospital on May 23, 1960, because of exertional dyspnea, weakness, increase in abdominal size and "something bulging from the vagina." The patient was belligerent but well oriented. She said she had never had heart or lung disease. Orthopnea when lying on the left side, and exertional dyspnea had been present for four weeks. She said her appetite had remained good but that her abdomen had increased in size over the five previous weeks. She did not have nausea or abdominal pain, and she did not know whether or not she had lost weight. Bowel movements had occurred daily until approximately two weeks before admission; from that time evacuation would occur on every second or third day.

From the Department of Obstetrics and Gynecology, Queen of Angels Hospital, Los Angeles.

Submitted June 29, 1961.

The patient said the stool was firm but she had not noted the color. Nocturia occurred twice nightly; there was no dysuria, urgency, frequency or stress incontinence. The patient was gravida 1, para 1. She had last menstruated 25 years previously. Before the present admittance to hospital she had noted a slight pinkish vaginal staining and a bulging from the vagina, both of five weeks' duration, the bulging making walking difficult. She said she had never had a surgical operation and was not taking medication.

Upon physical examination the patient did not seem uncomfortable. Her height was 5 feet 4½ inches and her weight 89 pounds. The skin was warm and dry with poor turgor. The chest was hyperresonant to percussion on the left, and dull to percussion on the right. Breath sounds on the right were distant. The pulse rate was 80 and regular and the blood pressure 130/80 mm. of mercury. There was no evidence of increase in cardiac size. Heart sounds were distant and not audible in the aortic and pulmonic areas. The abdomen was rotund, soft, and without tenderness. Suggestion of a fluid wave was present. There was a firm, nontender, irregular suprapubic mass extending to the umbilicus and filling the right lower quadrant of the abdomen. A ballotable mass that occupied part of the right upper quadrant was palpable above the umbilicus. The liver, kidneys and spleen were not palpable. Upon pelvic examination, complete procidentia with ulceration of the vaginal mucosa was noted. The cervix was clean, without evidence of bleeding. The uterine cavity was sounded to 3½ inches. Further evaluation of the intrapelvic contents was impossible, as the pressure and fullness behind the protruding structures prevented reduction of the prolapse. Soft, tan stool was noted on rectal examination. A trace of pretibial edema was present. No abnormalities were observed on neurologic examination.

The clinical impression at this time was probable ovarian carcinoma with ascites and hydrothorax secondary to metastasis.

Hemoglobin content was 13.3 gm. per 100 cc. of blood. Leukocytes numbered 8,800 per cu. mm., with the cell differential within normal limits. Erythrocytes and platelets appeared normal. Routine examination of a voided specimen of urine was reported as showing specific gravity of 1.010, acid reaction, negative reaction for sugar and ketone bodies. There was a trace of albumin, 1 to 2 leukocytes and 10 to 15 erythrocytes per high power field. Blood urea nitrogen was 10 mg. per 100 cc., albumin 2.9 gm. and globulin 3.7 gm. per 100 cc. Blood electrolytes were well within normal limits. An electrocardiogram was compatible with anterior lateral myocardial ischemia which could represent left ventricular hypertrophy. Five days before admission to hospital, an abdominal paracentesis had been done at the patient's home and 60 cc. of straw-colored fluid was withdrawn. A cytologic examination of a prepared specimen of the fluid was negative for malignant disease.

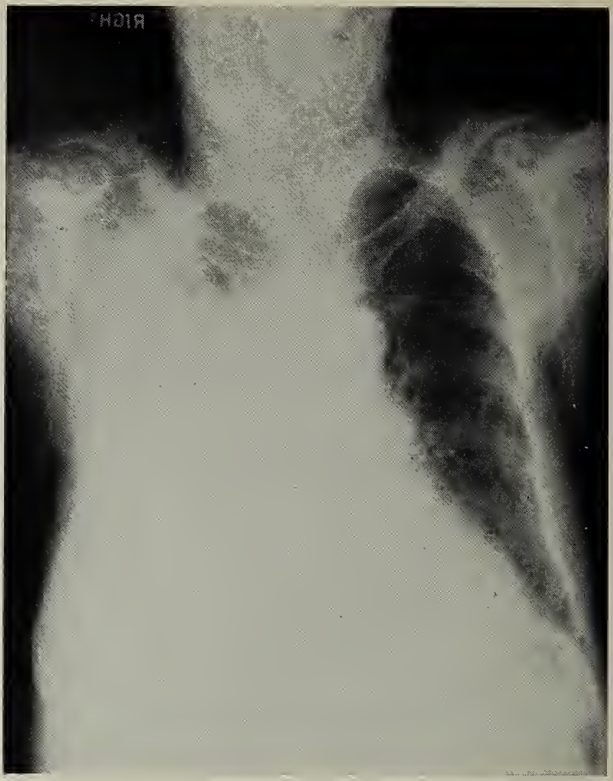

Figure 1.—Roentgenogram showing opacification of the right hemithorax by pleural fluid.

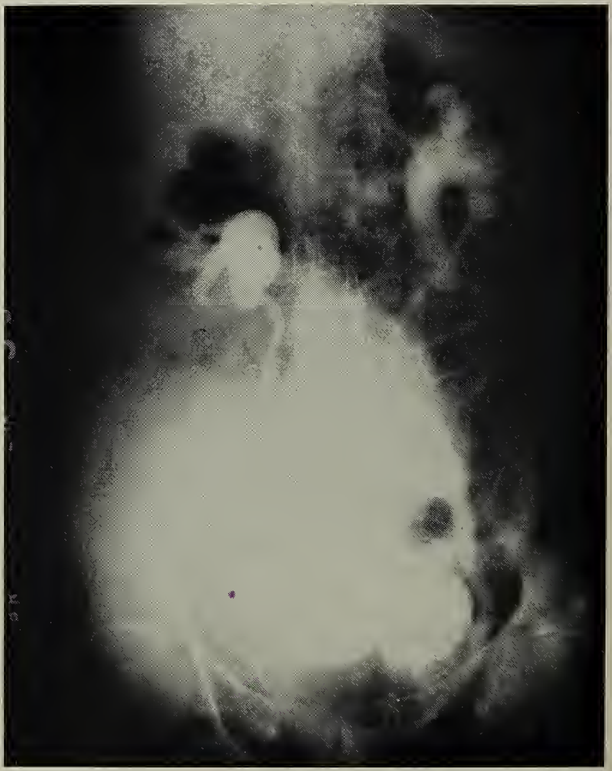

Figure 2.—Roentgenogram demonstrating bilateral hydronephrosis and hydroureter. Calcified leiomyomata overlie the pelvis. The ovarian fibroma displaces the intestinal loops to the left.

On May 24, roentgenograms of the chest (Figure 1) confirmed the presence of extensive pleural fluid on the right which opacified almost the entire hemithorax except for a small area in the apical region. As there was neither displacement of the mediastinal structures nor engorgement of the central lung vessels, the fluid was believed not to be from the circulatory system. Thoracentesis was carried out and 1,900 cc. of pale yellow, slightly turbid fluid was removed, which made breathing easier. Cytologic examination of the fluid revealed no evidence of malignant disease.

On May 25, roentgen examination of the chest showed less pleural fluid than on the previous day. The heart did not appear to be enlarged. The left lung field was clear and the bones of the thorax intact. An excretory urogram (Figure 2) showed good infusion of the contrast media on both sides. There was bilateral hydronephrosis and hydroureter. The ureters appeared to enter the bladder somewhat below the level of the symphysis. Renal drainage was quite poor and a half hour after the first urogram the renal pelves were still considerably distended. Overlying the pelvic inlet were two large calcific masses that were believed to be calcified uterine leiomyomata. An additional mass appeared to extend above the pelvic inlet into the abdominal cavity and displace the intestinal loops to the left; it was believed to be a cyst, possibly of ovarian origin. No definite conclusion could be reached as to whether or not intra-abdominal fluid was present.

Two days later, arm-to-tongue circulation time with dehydrocholic acid (Decholin®) was 21 seconds. Venous pressure was 7.5 cm. of water. A consultant believed that the patient might be in early left ventricular failure although compensated. Digitalization was recommended and completed.

On May 30 an additional 1,400 cc. of fluid was removed from the right chest. Cytologic examination was negative for malignant cells.

On June 2, with the patient under general anesthesia, cytoscopy was carried out. Mild trigonitis, an intact mucosa, pronounced distortion of the bladder wall secondary to the intrapelvic tumor and decided prolapse of the uterus were noted. Urine was observed to appear at both ureteral orifices.

On June 8 an additional 800 cc. of fluid was removed from the right chest. At this time a diagnosis of Meigs' syndrome was considered plausible because of inability to prove a malignant lesion.

On June 9 with the patient under epidural anesthesia, the abdomen was opened through a subumbilical, right paramedian incision. 600 cc. of clear yellow intraperitoneal fluid was present. A left ovarian tumor (Figure 3) 17x16x12 cm. was removed.

For expediency, supracervical hysterectomy rather than a total hysterectomy was carried out, the excised uterine specimen measuring 12x8x9 cm. The right ovary and tube were removed. The ovary, 4 cm. in diameter, had a firm, pink, 8 mm. nodule bulging from its surface. The remaining abdominal viscera appeared normal. Wire retention sutures were used in closing the abdomen. Estimated blood loss was 200 cc. The patient tolerated the procedure well.

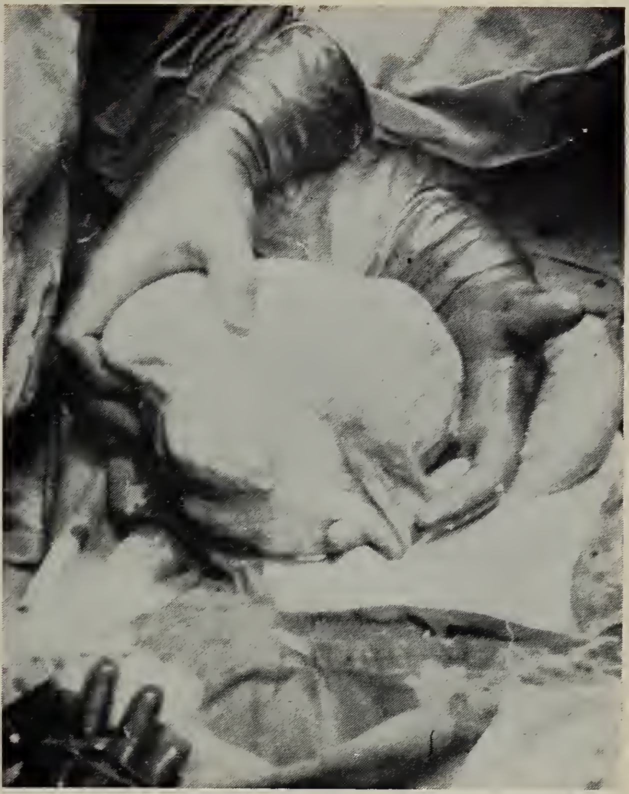

Figure 3.—Photograph at operation, showing the ovarian fibroma which measured 17x16x12 cm.

The pathological description was consistent with bilateral ovarian fibromas. Some edema was noted in one of the sections. A stain for fat was negative. The uterus contained partially calcified leiomyomata and hyperplastic endometrium of the Swiss cheese type.

The only postoperative complications were a single episode of auricular fibrillation and a urinary tract infection which was treated successfully with a sulfa drug.

X-ray studies on June 29 showed the right diaphragm slightly elevated and the right costophrenic angle somewhat obscured, probably by the presence of pleural fluid. Considerable improvement was evident. An intravenous pyelogram showed the kidneys functioning normally and regression of the previously described bilateral hydronephrosis. The ureters were well outlined and appeared to be of normal caliber.

Surprisingly, upon vaginal examination before the patient was discharged from hospital, fair support of the vaginal vault was noted despite the fact that at operation no effort was made to correct the prolapse.

On July 17 the patient was discharged to her home. In the course of the year following the operation, the patient's preoperative belligerence was supplanted by friendliness and complete cooperation. She gained 25 pounds and felt well. The only problem was recurrence of vaginal prolapse shortly after she left the hospital. It was corrected with a No. 4 ring pessary, but she had a minor degree of stress incontinence with the pessary in place.

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Ruptured Congenital Aortic Sinus Aneurysm

Report of a Case Successfully Corrected Following Aortographic Demonstration

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THE SUCCESS of operations on the heart with the surgical field exposed to view has much increased the obligation to make precise diagnosis of corrigible lesions. Aortocardiac fistula from rupture of congenital aneurysm of an aortic sinus (sinuses of Valsalva) has been successfully repaired in 13 reported cases since 1957.* A recent review[7] listed 59 cases reported up to 1958. Most of them were diagnosed postmortem.

We have found reports of aortographic demonstration of only five such cases. In the first proven case, reported by Brofman and Elder in 1957, retrograde aortography showed a fistula from the sinus of Valsalva to the right ventricle. We are reporting another case.

The patient was a girl 17 years old. She had developed well and had easily kept up with children of her age. In early childhood she had repeated mild respiratory infections. Cardiac murmurs had been present since birth, but no cyanosis nor any other sign or symptom of disease.

She appeared normal and healthy, with no edema, cyanosis or clubbing of fingers. All the classical signs of a wide pulse pressure were present—bobbing head, collapsing pulse, visible capillary pulsation, pistol shot audible over both femoral arteries. The chest bulged to the left of the sternum. A thrill was palpable from the second intercostal space to the cardiac apex, systolic in time but extending into diastole. The heart was large to percussion. The apical impulse was rolling and very vigorous with the point of maximal impulse out to the anterior axillary line in the fifth interspace. The first heart sound was louder in the aortic area than in the pulmonic, but the second aortic sound was barely audible. The second pulmonic sound was loud, not split. A harsh systolic murmur was heard all over the precordium—very loud at the pulmonic area, and was transmitted to the whole left chest and back. A murmur arising directly with the second sound occupied the whole of diastole. In the third left interspace it took on the quality of a machinery murmur —continuous and very loud. Systolic blood pressure (brachial) was 150; diastolic zero to 30 mm. of mercury.

Radiologically both ventricles were enlarged. The pulmonary segment stood out and the pulmonary vessels appeared engorged. The aortic knob was small, as were the ascending and descending aorta. Left atrial enlargement displaced the esophagus backward and produced a double contour at the right heart border (Figure 1). The electrocardiogram was consistent with right ventricular hypertrophy.

A cardiac catheter threaded into the right femoral vein passed through an interventricular septal defect and on into the ascending aorta. This happened on two occasions. The passage was not through a fistula from sinus to right ventricle, for the catheter was seen definitely within the left ventricle before passing into the aorta. The large left to right shunt was obvious. The high pressure gradient from the right ventricle to the pulmonary artery we thought was due to the very large volume of blood passing through the pulmonic valve. We thought likely also that there was a defect in an aortic leaflet with some regurgitation (see Table 1).

TABLE 1.—*Data from Cardiac Catheterization*

Source	O_2 Content (Vol. Per Cent)	Pressures (mm. Mercury) Systolic	Pressures (mm. Mercury) Diastolic
Right pulmonary artery	14.0	......	....
Main pulmonary artery	14.4	21	11
High in right ventricle	14.2	66	7
Low in right ventricle	14.3	......	....
Low in right atrium	10.3	......	....
High in right atrium	10.2	......	....
Superior vena cava	10.1	......	....
Inferior vena cava	10.5	......	....
Left venrticle	15.0	101	11
Aorta	14.9	101	65

* * *

	Liters per Minute
Pulmonary blood flow	26.0
Systemic blood flow	4.5
Left-to-right shunt	21.5

From the Departments of Radiology and Surgery, Stanford University School of Medicine.

Submitted July 21, 1961.

*Reference Nos. 1, 6, 7, 8, 9, 10, 12, 13.

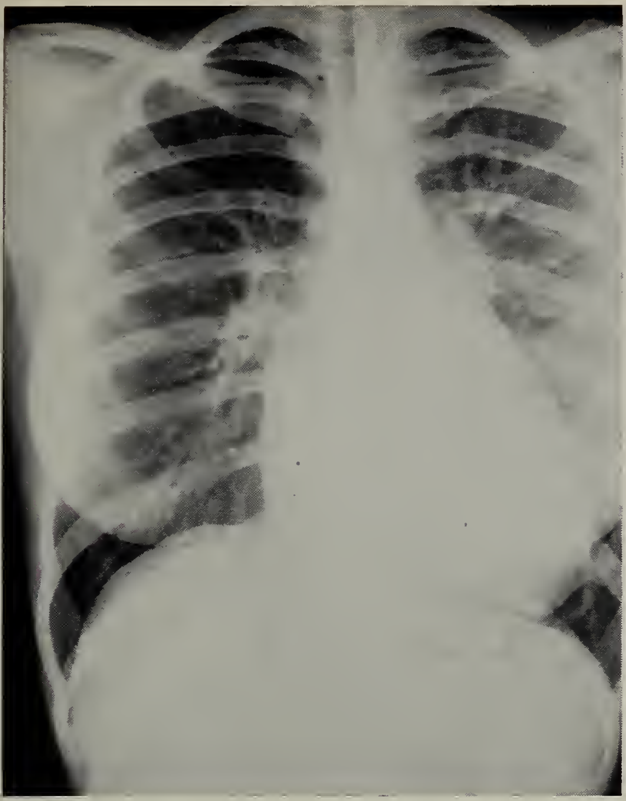

Figure 1.—Film of chest (patient standing) with barium in the esophagus. Note that both ventricles are enlarged and that the left atrium is enlarged beyond the border of the right one.

SELECTIVE VISUALIZATION

On account of this suspicion we undertook retrograde aortography. A closed-end No. 8 Rodriguez catheter was passed through the right brachial artery into the ascending aorta. Forty cc. of contrast medium (90 per cent Hypaque®) was injected rapidly, and sequential films taken in frontal and lateral projection at 6 per second showed a narrow fistula from the right aortic sinus into the outflow tract of the right ventricle (Figure 2). The fistula was filled only during diastole. No valvular regurgitation was evident. The diagnosis was ruptured sinus aneurysm associated with a high interventricular septal defect.

OPERATION

On July 19, 1960, using mechanical cardiopulmonary by-pass without refrigeration, the right ventricle was opened by longitudinal incision. A small aneurysm of the anterior sinus of Valsalva was seen protruding through a defect in the membranous portion of the interventricular septum, partially behind the septal leaflet of the tricuspid valve. The perforation was found and closed with several interrupted sutures of 000 arterial silk. This was then incorporated in closure of the septal defect. The repair was reinforced with a 1.5 cm. x 2 cm. Teflon® patch sutured circumferentially with 000 silk. The ventricular incision was sutured with 000 silk, and the heart defibrillated. For 20 minutes the aorta was clamped, with intermittent release, and with topical cooling of the heart to protect further against the effects of anoxia. Development of ventricular fibrillation under the refrigeration was readily stopped.

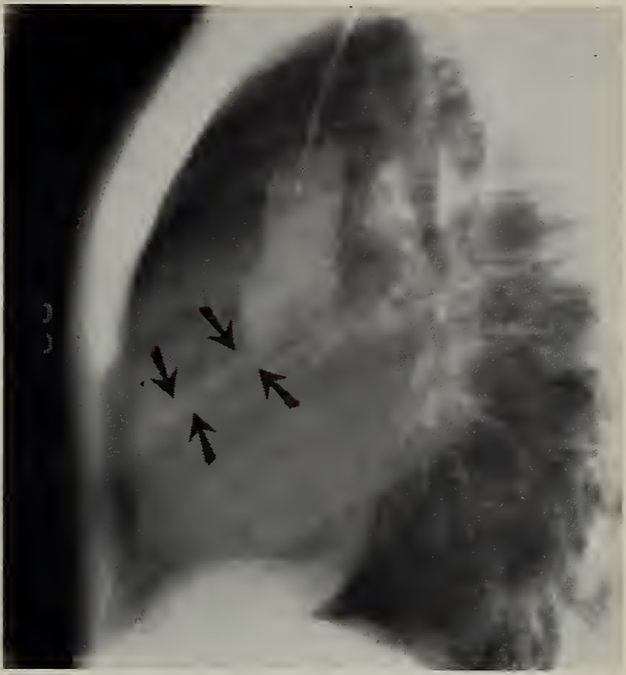

Figure 2.—Retrograde aortogram (right lateral), one of a series taken 6 per second. Note the aneurysm of right (anterior) sinus of Valsalva and the conical jet of opacified blood entering the right ventricle.

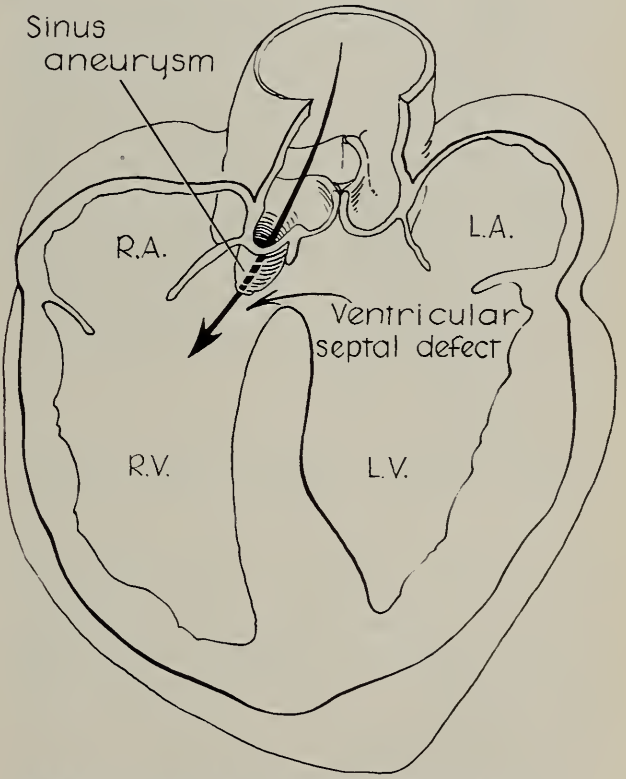

Figure 3.—Drawing of the findings at operation.

When sinus rhythm was restored it was noted that the great thrill over the right ventricle was gone altogether. The by-pass was slowly discontinued, and the heart took up the load uneventfully.

After a smooth postoperative course, the patient went home on the tenth day after operation. Nine months after the operation she was asymptomatic and had no audible cardiac murmur.

DISCUSSION

The aortic sinuses (of Valsalva) are three pouch-like dilatations of the aorta immediately above the aortic valve. They may be designated right, left and noncoronary. Aneurysms here are usually congenital and associated with a loss of continuity between the aortic ring and the media of its wall above.[4] The right one bulges into the outflow tract of the right ventricle and is more frequently aneurysmal than the others. Rupture of aneurysm of an aortic sinus is most frequently into the right ventricle, but may be into either auricle or the left ventricle, the pulmonary artery or the pericardial sac. Defect in the membranous portion of the interventricular septum is a common associated lesion.

Clinical Features

Aneurysm of an aortic sinus is usually silent unless it ruptures. This may occur dramatically, with precordial or upper abdominal pain, followed after a bit by congestive heart failure. It may be rapidly fatal. In 30 per cent of cases, however, symptoms develop insidiously, usually dyspnea and ready fatigue. Signs are due to the aortic leak, namely, collapsing pulse and a "machinery" murmur along the right sternal border, accompanied by a systolic thrill. The electrocardiogram often is consistent with left ventricular hypertrophy. Cardiac catheterization of the chamber that the fistula is emptying into shows increase in pressure and (if right heart) increase in oxygen saturation.

Roentgen Findings

Enlargement of ventricles and pulmonary engorgement, sometimes with left atrial dilatation, reveal the load of recirculated blood and may be interpreted as interventricular septal defect. For definite diagnosis retrograde aortography is the procedure of choice. The communicating channel from aorta to cardiac chamber may be filled only in diastole and very briefly. Consequently films should be taken in rapid sequence—6 per second—or by cinematography.

Differential Diagnosis

When the onset of symptoms is sudden, the clinical diagnosis may not be at all difficult. With insidious onset one may be hard put clinically to differentiate from patent ductus arteriosus, aortic pulmonary window, coronary arteriovenous fistula, and especially from interventricular septal defect. Differentiating from the latter may require retrograde aortograms. This can be an important matter, for to do an open heart operation on a patient with unexpected aortic insufficiency may lead to disaster.[14]

Prognosis

If the patient survives the first shock of the rupture of an aneurysm of the aortic sinus, he will go on to congestive heart failure and maybe bacterial endocarditis, of which he will ultimately die. With surgical repair, however, the life expectancy is good.

SUMMARY

We report a case of ruptured aneurysm of right sinus of Valsalva with fistula into the right ventricle. It was associated with congenital defect in interventricular septum. The diagnosis was revealed by retrograde aortography. With cardiopulmonary bypass, both lesions were corrected successfully through a right ventriculotomy.

Palo Alto Medical Clinic, 300 Homer Avenue, Palo Alto (Kramer).

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Acute Necrotizing Phlegmonous Gastritis

ROLAND G. FRANKLIN, M.D., *San Diego*

VERY FEW CASES of acute phlegmonous gastritis, a disease associated with a 90 per cent mortality rate,[1] have been reported, perhaps an indication that the condition is rare. Even fewer cases have been reported in the past ten or fifteen years, possibly owing to the advent of antibiotics of various kinds.

Acute phlegmonous gastritis is a condition in which the stomach becomes so inflamed that the patient becomes severely ill, with the principal subjective symptoms referable to the epigastrium. Epigastric pain, tenderness and, sometimes, rigidity are present. Fever, nausea and vomiting usually accompany the pain. Leukocytosis occurs in most cases. So bizarre are the results of x-ray studies of the stomach that an exact diagnosis cannot be made from them. Films taken after ingestion of barium will usually show atony of the stomach and retention of the barium. Inflammation may be diffuse throughout the stomach or localized to portions of it. It does not appear to extend beyond the pylorus. In severe phlegmonous gastritis, all the stomach wall is involved and the inflammation may be so intense that the intrinsic blood supply to the organ is impaired, the wall becoming necrotic—this even though the extrinsic blood supply is normal. The exact cause for the acute inflammatory condition is not definite. Some investigators believe that it is bacterial in origin, possibly secondary to bacteremia. Hemolytic streptococcus has been implicated.[2] Perhaps the inflammatory process is due to a "sensitivity" of some type.

REPORT OF A CASE

The patient was a 54-year-old white, married woman. She was admitted to the hospital with a history of three or four days of burning epigastric pain accompanied by nausea and vomiting. There was no melena. Bowel movements had been normal. Upon physical examination, tenderness in the epigastrium was noted, but no rebound tenderness or rigidity. No organs or masses were palpable. Leukocytes numbered 9,000 per cu. mm. Results of all other laboratory examinations, including a liver function test and amylase and lipase studies, were within normal limits.

Upper gastrointestinal tract x-ray studies showed some atony of the stomach and retention of barium, but no true intrinsic or extrinsic lesion was apparent. Gastric suction and supportive care were carried out, the patient improving enough to leave the hospital after nine days. Seven days later she was readmitted with symptoms similar to those of the first admission. The body temperature was 100°F. The only positive physical finding was tenderness in the epigastrium. Leukocytes numbered 11,200 per cu. mm.—88 per cent polymorphonuclear cells. The hemoglobin was 14 gm. per 100 cc. X-ray studies of the stomach again showed atony and retention of barium. No peristalsis was recognizable in the distal half of the stomach. Two days after hospital admission the patient was operated upon. When the abdomen was opened omentum was noted to be adherent over the anterior wall of the stomach. It was freed, and the anterior wall of the stomach was observed to be necrotic, with a hole in it. The entire distal half of the stomach was brownish-black. The necrotic area extended to the pylorus, but not beyond. The mucous membrane was necrotic and had sloughed away. The proximal portion was thick-walled and slightly dusky but not necrotic. The extrinsic blood supply to the stomach was unimpaired; good pulsation could be felt in the gastric arteries. The distal two-thirds of the stomach was resected. The cut edge of the proximal portion was thick walled and edematous and bleeding was minimal. Only a slow ooze of dark blood occurred at this edge. An isoperistaltic, anticolic anastomosis was performed between the stomach and proximal jejunum. Catgut sutures were used throughout. A culture of the interior of the stomach showed Escherichia coli, aerobacter aerogenes and streptococcus. Postoperatively, the patient received chloramphenicol, 0.5 gm., every 12 hours for seven days. In addition to the usual care after gastrectomy, she received hydrocortisone sodium succinate (Solu-cortef®) intramuscularly for five days and then triamcinolone (Aristocort®) orally. The postoperative course was uneventful except for leukocytosis: 31,450 per cu. mm. on the sixth day after operation, then for the next three days 20,350, 36,000 and 13,000. The patient was discharged from the hospital on the eleventh postoperative day. Thereafter she was asymptomatic. Temperature and blood cell counts were within normal limits. She received no medication other than vitamins. In the first six weeks postoperatively she gained ten pounds in weight.

Pathologist's Report

"In all areas of the stomach examined there was extensive ulceration of the mucosa, with dense acute and chronic inflammatory cell infiltration and necrosis throughout all layers of the wall. Within the muscular coat of the stomach were areas of complete thrombotic occlusion of large arteries, associated with early organization and with acute inflammatory cell infiltration of their walls. Also present in smaller arteries were areas of older thrombosis, with complete organization and recanalization. These changes suggested that the arterial lesions antedated the inflammatory process and in most probability were the underlying cause of the ischemic necrosis. The arterial lesions did not fit

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Submitted November 21, 1961.

a set pattern of the more easily recognized arteritides. There was no evidence of specific inflammation or neoplasia."

SUMMARY

A patient with extensive necrotizing phlegmonous gastritis in which the intrinsic blood supply of the stomach was impaired while the extrinsic supply was normal, is presented. The major portion of the stomach was removed and the patient had no further symptoms after recovering from the operation.

2290 Sixth Avenue, San Diego 1.

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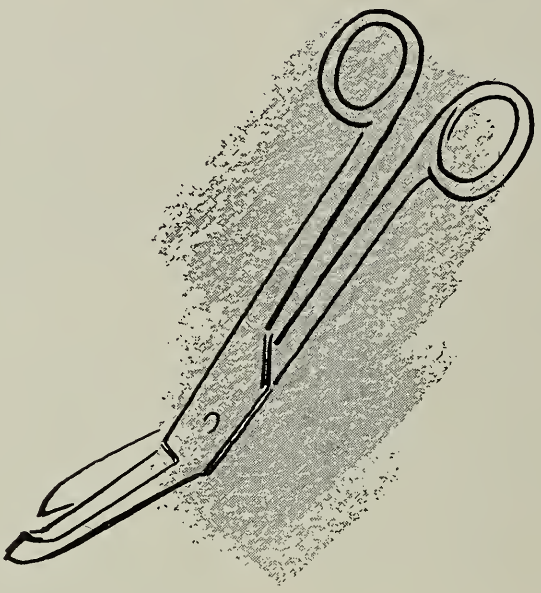

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EDITORIAL

Medical Student Loans

Since the earliest pertinent memories of today's practicing physicians, the need for money for education has plagued medical students.

Any gathering of reminiscing physicians will elicit comments on the various methods they used to tide their education over periods of fiscal stringency. Among the means noted in California, to mention a few, have been cab driving, professional baseball and football, wrestling, newspaper reporting, political precinct work and the sale of blood. Dishwashing, table waiting and any number of menial tasks have been used as budget stretchers.

The need for money arises because medical education is costly *per se* and because the time involved is so long. No other profession demands so much training for so long a time.

Over the years a number of methods have been worked out for students to get money for their schooling. Scholarships are available for those who qualify under terms that are sometimes intricate. "Laboratory assisting" jobs—dishwashing, as many an able physician in practice can testify—keep some aspirants solvent. Fellowships for more advanced students are available in some schools. A summer of work is fairly routine with most students.

Despite the financial obstacles, medical education has continued to attract bright scientifically-minded students, even though in recent years there have been many rival attractions, such as physics and electronics.

Where new industries based on physics and electronics have sprung up in the past decade, the demand for scientifically trained personnel has reached a point at which subsidies for education have been forthcoming from many corporations. The practice of medicine, carried on by individual practitioners, has not been able to pick its candidates and see them through their financial travails to the day they are ready to set out to treat sick people.

Right here at home, the California Medical Association has been studying various means of providing financial assistance to medical students. Loans, grants, outright gifts—all have been looked at and evaluated. The complexities and the cost of such a program have militated against the acceptance of any definitive plan up to now.

Thus it comes as a most welcome piece of news that the American Medical Association-Education Research Foundation (A.M.A.-E.R.F.) has now worked out a student loan plan for medical students. Details of the plan have already been supplied to the deans of our medical schools and doubtless there are already a number of loan applications being processed.

The A.M.A.-E.R.F. plan will allow a medical student to borrow up to $15,000 over a period of years. The loans will be made through a Chicago bank, which will lend as much as $12.50 to any one student for each $1 maintained by A.M.A.-E.R.F. in a reserve account. Interest rates are low and the simple interest (1 per cent above the prime rate) may be added to the face of the loan. Repayment periods may be stretched out over ten years and loans may be prepaid or refinanced if more favorable terms are available to the borrower.

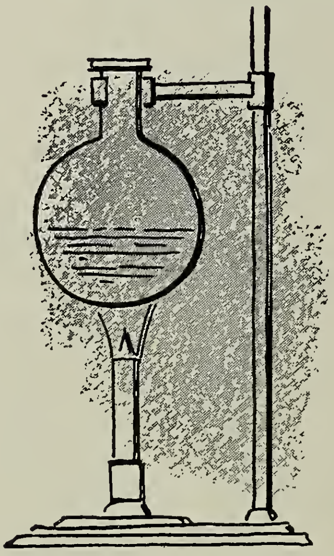
Under this plan a student may take out a new loan each year over the term of his medical education, each new sum being added to his outstanding debt. When his educational program is finished, he may then take up to ten years to make repayment of his total loan, with a modest interest charged on the unpaid balance.

Easy credit terms under this program are made possible by the building up and maintenance of the reserve fund by A.M.A.-E.R.F. This corporation, an extension of the original American Medical Education Foundation, proposes to accumulate its fund in line with the constantly increasing total of loans to be made by the bank. For each $1,000 it can add to its fund, another $12,500 of credit will be available to medical students throughout the country. The A.M.A.-E.R.F. will cosign all loans.

Behind the establishment of this program lies a tremendous amount of work on the part of educators, bankers and physicians themselves. The entire concept is large and is a fine example of how the medical profession can work with other interests to provide a plan which is suitable and of great help to the medical students of today and tomorrow.

Physicians as individuals are likely to decry subsidies. They have been trained in a school designed to make them self-reliant and thus are disposed to look askance at those who are given "something for nothing." They do not want government subsidizing the study of medicine because of the inferred or actual control government might then practice over physicians. And they are likely to resent the unlimited funds available to industry to subsidize prime students in other fields who might enter medical training if they could see their way financially clear to complete a medical education.

Here is an opportunity for those students who wish to maintain their own independence to secure a training which they wish and to make proper and adequate financial arrangements for that training. We wish the greatest of success to this program, not only for the students who stand to benefit immediately but also for the ultimate beneficiaries of whatever improvements can be made in the profession of medicine.



The President's Page

Summitmanship

> *"Wise men learn much from their enemies."*
>
> —ARISTOPHANES: *The Birds, 415 B.C.*

IN THE GENTLE ARTS of communications and training leadership, there are two basic types of meetings: the inspirational and the informational. The former is always much the more satisfying. It comprises finding an eloquent speaker, selecting a timely and important topic and having it presented so as to conform with the personal philosophies and attitudes of a great majority of the audience.

The formula never misses. It is even more spectacular if the speakers can assail the enemy with pat slogans and rather loose logic and not have to risk the awkwardness of sobering rebuttals. The audience leaves pleased, the sponsoring organization and its leadership inspired and convinced they are "going places."

But once away from the flush of fellowship, something is missing. Of course if one talks to an already converted fellow member, the inspiration can be rekindled—and that is important for creating unity and cooperation. However, what happens when one meets a stranger, an uncommitted mind or even "the enemy"? Then inspiration alone falls flat; facts are then all important.

So the "informational" type of meeting is essential. In fact, when training duly elected leaders—who by virtue of their office have demonstrated their conviction and dedication—the informational meeting is by far the more important. There are two varieties to select from. The traditional way for medicine and for most organizations is to have the program composed of informed speakers who share our convictions, know the facts and have met the foe. That type is most useful, but it is not enough.

We must also hear from our adversaries—first hand—in an environment of courtesy and restraint. Only then will we hear what other people have been hearing, and only then can judge how best to mount our own attack and effectively defend our position. It is thus that one can appreciate their ability and wiles, grasp their determination and recognize their danger. To listen to and meet with responsible leaders of the other side is not "selling out" to them. To expose a group of our own leaders to them is not a form of "brain washing." To invite them to address us is not "giving them status."

"Summitmanship" is not a social grace; it is a necessity for victory. We had a form of it at our recent Annual Conference of County Officers. Might not the same sort of program fit well the informational needs of local county society meetings? It is the grindstone upon which one can sharpen his facts and convictions. If the foe is wrong, you will detect his weaknesses; if you are right, you can better defend your position.

Warren L. Bostick M.D.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Minutes of the 477th Meeting of the Council, Los Angeles, Ambassador Hotel, February 16, 1962.

The meeting was called to order by Chairman Sherman in the West Venetian Room of the Ambassador Hotel, Los Angeles, on Friday, February 16, 1962, at 10:00 a.m.

Roll Call:

Present were President Bostick, President-Elect Wheeler, Speaker Doyle, Vice-Speaker Heron, Secretary Hosmer, Editor Wilbur and Councilors MacLaggan, Wilson, Todd, Quinn, O'Neill, Kirchner, O'Connor, Ham, Rogers, Dalton, Murray, Davis, Miller, Sherman, Campbell, Morrison, Kaiser, Anderson and Teall.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Clancy, Collins, Marvin, Whelan, Clark, Klutch, Tobitt, and Bowman and Dr. Batchelder of C.M.A. staff; Howard Hassard, legal counsel; county executives Lingerfelt of Fresno, Geisert of Kern, Donovan and Colvin of Santa Clara, Somerville of Napa, Blankfort of Marin, Dalbec of Los Angeles, Donmyer of San Bernardino, Nute and Burris of San Diego, Neick of San Francisco, Wood of San Mateo, Brown of Sonoma, Bailey of Tulare, and Rideout of Butte-Glenn; Dr. Malcolm Merrill, State Director of Public Health; Dr. Lester McDonald, medical director of the State Department of Social Welfare; Dr. David C. Gaede of the State Department of Mental Hygiene; Doctors T. Eric Reynolds, Donald C. Harrington, Gerald W. Shaw, Thomas Elmendorf; Mr. J. E. Bryan; Mr. Howard Williams and others.

1. *Minutes for Approval:*

On motion duly made and seconded, minutes of the 476th meeting of the Council, held January 13, 1962, were approved.

2. *Membership:*

(a) A report on membership as of February 13, 1962, was presented and ordered filed.

(b) On motion duly made and seconded, 15 applicants were voted Associate Membership. These were: Sol Bernstein, Avrom Estin Comarr, William G. Hammond, Addie Lou Klotz, Ernestina C. Reinhardt, Stephen Russell, Adolph Surtshin, Los Angeles County; H. S. Morgenstern, Napa County; DeWitt H. Garlock, Elmer Haynes, San Bernardino County; Jerry T. Miser, William Tappen, San Diego County; Paul O. Weiss, Santa Clara County; Gilbert Lee Dunnahoo, Santa Cruz County; S. Wilbur Anderson, Ventura County.

(c) On motion duly made and seconded, 22 members were voted Retired Membership. These were: Charles C. Hall, Alameda-Contra Costa County; Lolita M. Flewelling, Herold P. Hare, Lucile G. Hartwig, Heather Ingle, Clayton R. Johnson, Herbert A. Lamont, Merrill C. O'Donnell, Olin Paul, Charles T. Poulson, William A. Swim, Charlotte F. Walker, Los Angeles County; Christian B. Pedersen, G. Dean Tipton, Placer-Nevada County; Elmo G. Crabtree, Oliver D. Draper, Mary C. Jaquette, Leslie H. Redelings, Robert S. Smylie, San Diego

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County; Henry F. Carman, Emelia A. DeEds, Joseph J. Jacobs, San Francisco County.

(d) On motion duly made and seconded, 25 members were voted reductions of dues because of prolonged illness or postgraduate study.

2. *Introduction of Guests:*

Councilor O'Connor introduced to the Council Mr. Howard Williams, formerly with a Los Angeles newspaper and now serving as director of public relations and communications of the Los Angeles County Medical Association.

Mr. Hassard introduced to the Council Mr. James E. Bryan of New York, who has been retained to carry out a study of public relations of the Association under authority voted earlier.

3. *C.M.A.-C.P.S. Liaison Committee:*

Councilor Anderson presented a report of the C.M.A.-C.P.S. Liaison Committee relative to the new A.M.A.-National Blue Shield Senior Citizen Program. The complete report is attached to these minutes and made a part of them. On motion duly made and seconded, it was voted unanimously to approve the report.

On motion duly made and seconded, it was voted unanimously to approve the National Blue Shield Senior Citizens Program in accordance with the stipulations embodied in the report of the C.M.A.-C.P.S. Liaison Committee.

4. *Commission on Community Health Services:*

Chairman MacLaggan of the Commission on Community Health Services discussed a uniform claims form developed by the Health Insurance Council and tabled by the Council at its January meeting. After further discussion it was regularly moved, seconded and voted to approve this form for use in California provided such approval did not impinge on the use of other claims forms developed in several areas and accepted by the underwriters of health and accident insurance.

Dr. MacLaggan reported on a set of Guides for Occupational Health, copies of which had been distributed. On motion duly made and seconded, it was voted to approve this item for sending to the county medical societies.

For the Committee on Disaster Medical Care, Dr. MacLaggan reported that a meeting was planned with civil defense representatives and those of other organizations, with a view toward forming a Council on Disaster Medical Care. On motion duly made and seconded, approval was voted for this meeting.

Discussion was held on a report made by a special commission after a survey of the Santa Cruz County Hospital. On motion duly made and seconded, it was voted to approve this report and to authorize its use as material for guides to be prepared for use by other county societies. The Council commended the committee on an excellent piece of work under trying circumstances.

Dr. MacLaggan also reported on five resolutions referred through the commission to the committees on school health and traffic safety. These were:

Resolution No. 87 (School Health)—Objectives have been met through enactment of state legislation.

Resolution No. 12 (Traffic Safety)—Committee learned that recording physical ailments, medications, etc., on the reverse side of drivers' licenses would not be acceptable to the Department of Motor Vehicles and suggested this subject be dropped.

Resolution No. 51 (Traffic Safety)—The committee believed the medical emergency information proposed was not a proper project for the Association and suggested the author seek assistance elsewhere.

Resolution No. 55 (Traffic Safety)—Endorsement of auto seat belts was believed adequately covered at this time. Committee suggested vote of thanks to car dealers who foster seat belt installation and use.

Resolution No. 83 (Traffic Safety)—Physician identification on drivers' licenses will be satisfied by order to be issued by the Chief of the Department of Motor Vehicles.

5. *Narcotics Exhibit:*

The chairman announced that a proposed exhibit of methods used by narcotics addicts to obtain supplies from physicians would be discussed by the Finance and Dangerous Drugs committees with narcotics officials and recommendations would be made to the Council for consideration in advance of the 1963 Annual Session.

6. *Report of the President:*

President Bostick reported on his recent visits, including an appearance on a nationally distributed television program.

Dr. Bostick further reported that he had met with inspection officials of the American Medical Association who have reviewed the now California College of Medicine and that tentative approval of the school as an approved medical school is expected to be granted by March 1. Members of the senior class of the school are expected to be granted M.D. degrees on their graduation this year and previous graduates are expected to receive the degree on a regional basis in the coming months.

7. *Report of the President-Elect:*

Dr. Wheeler reported that meetings had been held with the California Medical Assistants Association and further meetings planned in the interest of cooperative procedures.

Dr. Wheeler also reported that the Committee on Committees would meet soon and give a thorough review of the entire commission and committee structure of the Association, with the end of providing a workable structure which can fit into an acceptable budget pattern.

8. *State Department of Public Health:*

Dr. Malcolm Merrill, State Director of Public Health, reported that the epidemic of Type B virus influenza had about run its course and that some cases of Type A Virus were now being reported.

He also reported that the Advisory Hospital Council had held its annual planning session, that various boundary changes were being made in response to regional hospital planning needs and that means were being explored to make federal hospital construction funds available for renewing and modernizing existing hospitals.

Dr. Merrill also discussed the use of oral poliomyelitis vaccine for Type I and Type II polio and the necessity of determining adequate and proper procedures when Type III oral vaccine becomes available. He also asked that county societies cooperate with local health officers in planning programs for chronic illness and the aging under federal funds now allocated to local areas which have had their plans approved.

9. *State Department of Social Welfare:*

Dr. Lester McDonald gave a detailed statistical report on the number of recipients of various categories of aid under the Department of Social Welfare. Some of the more interesting figures showed that in December, 1961, there were 96,100 persons obtaining general relief, 261,300 needy children and 16,100 totally disabled. On the new M.A.A. program, 11,800 applications were filed in December, of which 660 were approved. More than 90 per cent of these applicants were receiving public assistance at the time their aid was granted. Nursing homes certified for M.A.A. now total 988.

10. *State Department of Mental Hygiene:*

Dr. David Gaede of the State Department of Mental Hygiene reported that private mental hospital beds in California now total more than 10,000, that their average occupancy last year was 5,500 and that 22,900 admissions had been recorded, compared with 22,300 in state institutions. He urged that all health insurance underwriters give serious consideration to including mental illness in their coverages. He also gave a digest of a report soon to be issued by the department, which will be referred to the Committee on Mental Health and the Commission on Medical Services.

11. *Finance Committee:*

Dr. Teall presented a report of income and expenditures for January and the seven months ended January 31, 1962, and outlined the more important items. He also reported that the Finance Committee had held one meeting on a proposed 1962-1963 budget and would hold a second on February 28 in order to approve a budget to be presented to the Council in March.

12. *Speakers' Bureau:*

Dr. Anderson gave a progress report on the activities of the Speakers' Bureau and paid tribute to Doctors Bostick, Teall and Ham for their fine work in making pubic appearances.

13. *Commission on Medical Services:*

(a) Model by-laws for the Association and for county societies, to establish mediation committees and their procedures were presented and, on motion duly made and seconded, approved.

(b) Report was made on the components of an adequate health care program, in line with Resolution No. 38 of the 1961 House of Delegates. The report, stemming from studies by the commission, by the Bureau of Research and Planning and by the C.P.S. contract Committee, was, on motion duly made and seconded, approved.

(c) Report was made for the Committee on Government Financed Medical Care that the committee is attempting to develop an outline for a study of problems encountered by county hospitals. Further report will be made.

The committee also reported that some financial loss may be expected as a result of California Physicians' Service continuing the administration of the Medicare contract with the Department of Defense and asked if the Council wished C.P.S. to continue as fiscal agent under these circumstances. On motion duly made and seconded, it was voted to accept a committee report which asked that C.P.S. continue in this capacity.

14. *Commission on Public Agencies:*

The Council reviewed a statement presented by Councilor Miller before the State Board of Pharmacy, in opposition to a proposal that regulations be enacted to prohibit a registered pharmacist from being employed by a physician authorized to write prescriptions. On motion duly made and seconded, it was voted to approve the statement and to commend Dr. Miller and the staff for an effective presentation.

15. *Commission on Professional Welfare:*

Dr. Kirchner reported that a panel discussion was being planned by the State Bar of California on proposals advanced for permitting a corporate form of professional practice by self-employeds. Mr. Hassard also discussed this matter and suggested that if resolutions calling for this type of proposal were to come before the House of Delegates, it would be advisable that a special reference committee meeting, or a meeting of several committees jointly, be planned. On motion duly made and seconded, this suggestion was approved.

16. *Commission on Cancer:*

Dr. Davis reported that the Commission on Cancer was preparing to complete and issue reports on current cancer education. Further report is to be made.

17. *Legal Department:*

Mr. Hassard reported that the court had taken under advisement the final cause of action presented in opposition to the unification program with osteopathy. If the court rejects the cause of action, appeal may be taken to the Supreme Court of the state.

He also reported that several members of the Board of Trustees of the former College of Osteopathic Physicians and Surgeons have filed suit against the school and the other board members, claiming that the transposition of the college into a medical school is illegal and should be estopped.

18. *Time and Place of the Next Meeting:*

The chairman announced that the next Council meeting would be held in San Francisco on March 17, 1962.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 4:00 p.m. in memory of Dr. Sam J. McClendon and Mrs. Dwight H. Murray.

Samuel R. Sherman, M.D., *Chairman*
Matthew N. Hosmer, M.D., *Secretary*

* * *

REPORT OF THE C.M.A.-C.P.S. LIAISON COMMITTEE

The C.M.A.-C.P.S. Liaison Committee met February 14, 1962, to consider the much publicized A.M.A.-National Blue Shield Senior Citizens Program.

(You have before you The National Blue Shield *Newsletter* which contains the summary of plan benefits and the publicity which followed announcement of the program and also a copy of Dr. Blasingame's letter to all state societies.)

The committee considered this program from all aspects. The following observations were made in the discussion.

1. The program covers those over 65 with *family* income of $4,000 or less—this is essentially a near indigent group, many of whom now receive their major medical care in county hospitals in California.

2. The program provides for in-hospital surgical and partial in-hospital medical care payments to physicians. No provision is made for assistant surgeons nor for consultations, and almost no outpatient professional services are provided. It is therefore an incomplete program.

3. In many states this offering for in-hospital professional services will be made in conjunction with Blue Cross, which will offer hospital services at a premium of approximately $11.80 per month.

4. The advertised premium of $3.20 for individual, $6.20 for 2-party coverage will probably have to be adjusted before a formal public offering is made.

5. In California, C.P.S. already has 2 policies for persons over 65 which are more inclusive and more realistic than the National Blue Shield plan, with a higher income ceiling and more adequate physician allowances.

6. It was pointed out that this program was developed by Blue Shield at A.M.A.'s request, in accordance with a 1958 House of Delegates resolution calling for such a program, and as a result of requests from many Senators and Congressmen who reported that their constituents appeared to favor the King-Anderson bills.

7. Several large metropolitan medical societies and several conservative state societies, such as Texas and Illinois, have already approved this program and urge its adoption, nationwide.

8. Because of high overhead costs in California it was felt that the very minimum California doctors could be asked to accept, even for this low-income group, would be a $4 conversion factor on the 1960 Relative Value Studies.

Following due consideration, the committee adopted the following motion:

The C.M.A.-C.P.S. Liaison Committee recognizes:

1. The National Blue Shield Senior Citizens program provides for a portion of the professional services needed by those over 65.

2. There is an urgent need for some professional service program as indicated by the requests from Congressmen, National Blue Cross, American Hospital Association and the A.M.A. House of Delegates, and others.

3. If the urgencies are considered sufficient to warrant Council appoval of this program for California, C.P.S. should be instructed to proceed on the basis of a conversion factor of no less than $4 on the 1960 Relative Value Studies.

4. Continuing efforts should be made at the national level to develop a more extensive program of coverage for the low income aged group, by the existing joint committee of A.M.A., Blue Cross, Blue Shield and commercial carriers, established for this purpose.

5. In the event this senior citizens program is implemented in California, C.P.S. should make every reasonable effort to encourage subscribers to transfer their coverage into the more adequate C.P.S.-65 program.

In Memoriam

Blak, Einar Viggo, San Francisco. Died March 15, 1962, in Belmont, aged 75. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1913. Licensed in California in 1925. Doctor Blak was a retired member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✣

Fertman, Mildred Been, San Francisco. Died March 6, 1962, in San Francisco, aged 45, of cancer. Graduate of Ohio State University College of Medicine, Columbus, 1945. Licensed in California in 1947. Doctor Fertman was a member of the San Francisco Medical Society.

✣

Goldsmith, Solomon, Los Angeles. Died February 14, 1962, in Los Angeles, aged 52, of carcinoma of lung. Graduate of Rush Medical College, Chicago, Illinois, 1936. Licensed in California in 1936. Doctor Goldsmith was a member of the Los Angeles County Medical Association.

✣

Hongola, Russell Iver, Reedley. Died February 11, 1962, in Las Vegas, aged 41, of heart disease. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1950. Licensed in California in 1950. Doctor Hongola was a member of the Fresno County Medical Society.

✣

Hutchinson, William W., Ojai. Died February 27, 1962, in Ojai, aged 78, of a stroke. Graduate of the College of Physicians and Surgeons, Los Angeles, 1917. Licensed in California in 1917. Doctor Hutchinson was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✣

Kearney, Francis Kissack, Hayward. Died March 3, 1962, at Dodge Ridge, Tuolumne County, aged 54, of asphyxiation in a snowdrift as a result of a skiing accident. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1933. Licensed in California in 1933. Doctor Kearney was a member of the Alameda-Contra Costa Medical Association.

✣

Kilbourne, Edwin Dearborn, Los Altos. Died February 26, 1962, in Sunnyvale, aged 84, of a kidney ailment. Graduate of Northwestern University Medical School, Chicago, Illinois, 1899. Licensed in California in 1928. Doctor Kilbourne was a retired member of the Santa Clara County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✣

Levin, Walter Nissen, Fresno. Died February 12, 1962, in Fresno, aged 57, of heart disease. Graduate of the University of Colorado School of Medicine, Denver, 1929. Licensed in California in 1930. Doctor Levin was a member of the Fresno County Medical Society.

✣

Miller, Philip Joseph, Santa Monica. Died February 28, 1962, in Santa Monica, aged 59. Graduate of Stanford University School of Medicine, Palo Alto-San Francisco, 1928. Licensed in California in 1928. Doctor Miller was a member of the Los Angeles County Medical Association.

✣

Nabours, Robert K., Chula Vista. Died January 18, 1962, in San Diego, aged 42, of Laennec's cirrhosis. Graduate of the University of Kansas School of Medicine, Lawrence-Kansas City, 1945. Licensed in California in 1947. Doctor Nabours was a member of the San Diego County Medical Society.

✣

Peers, Robert Stewart, Oakland. Died January 19, 1962, aged 56. Graduate of McGill University Faculty of Medicine, Montreal, Quebec, Canada, 1930. Licensed in California in 1931. Doctor Peers was a member of the Alameda-Contra Costa Medical Association.

✣

Robinson, Emery Irvin, Los Angeles. Died November 23, 1961, in New York City, aged 72, of coronary sclerosis. Graduate of Meharry Medical College, Nashville, Tennessee, 1919. Licensed in California in 1927. Doctor Robinson was a member of the Los Angeles County Medical Association.

✣

Stephens, William Barclay, Alameda. Died February 28, 1962, in Alameda, aged 93, of pulmonary emboli due to adenocarcinoma of cecum with metastasis. Graduate of Columbia University College of Physicians and Surgeons, New York, N. Y., 1893. Licensed in California in 1893. Doctor Stephens was a retired member of the Alameda-Contra Costa Medical Association and the California Medical Association, and an associate member of the American Medical Association.

No. 7*

"Release for Work"

It is recognized that not infrequently difficulties are encountered in returning employees to work in industry when they have been absent for illness or injury of nonoccupational origin. In attempting to improve lines of communication between private physicians and in-plant physicians, and at the same time to avoid difficulties for the employee-patient, the following example is presented. Using a form like the one shown below has been found to be quite valuable in this regard. The committee hopes that its publication will lead to greater use where such problems are encountered.

DOCTOR'S APPROVAL OF RETURN TO WORK FROM NONOCCUPATIONAL ILLNESS, INJURY OR SURGERY

To:____________________________. Date:________________
(Medical Department of Employer)

____________________________has been under my care for treatment of
(Name of Patient)

____________________________and may return to work________________
(Date)

☐ with no physical limitations.

☐ with limitations as indicated below:

1. Should avoid all lifting . . ☐
   May lift up to 10 lb. . . . ☐
   May lift 25 to 35 lb. . . . ☐
   May lift up to 75 lb. . . . ☐
2. Should do sitting work only ☐
   Should have 40 per cent sitting work . . . . . . ☐
3. Should avoid climbing stairs ☐
   May climb stairs but not ladders . . . . ☐
4. Should avoid kneeling or squatting work . . . . . ☐
5. Specific limitations not covered by foregoing (for example, vision, hearing, contact or exposure, stress or strain, machine or vehicle operation, etc.) are:

   ____

   ____

   ____
6. Surgical, orthopedic, safety, or other appliances that must be worn while working are:

   ____

☐ This patient is still under my care. I will modify his limitations as progress permits.

____
(Signature of Physician)

Committee on Occupational Health
California Medical Association

Comments and Questions Are Welcomed by the Committee

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* This is the seventh of a series of articles prepared by the Committee on Occupational Health.

NEXT MONTH: **"YOU GOTTA HAVE HEART"**

12th ANNUAL

REGIONAL POSTGRADUATE INSTITUTE

SAN JOAQUIN VALLEY COUNTIES

Presented cooperatively by San Joaquin Valley Counties Medical Societies; Department of Continuing Education in Medicine and Health Sciences, University of California School of Medicine, San Francisco and the California Medical Association Committee on Postgraduate Activities.

Guest Speaker: ALEXANDER B. GUTMAN, M.D., Professor of Medicine, College of Physicians and Surgeons, Columbia University; Director, Department of Medicine, Mt. Sinai Hospital, New York; and Editor-in-Chief, *American Journal of Medicine.*

Ahwahnee Hotel, Yosemite National Park

May 3 and 4, 1962

Metabolic Aspects of Clinical Practice

PROGRAM

THURSDAY, MAY 3

Morning Meetings

9:00—**Methods of Studying Disordered Calcium Metabolism**—Eugene Eisenberg, M.D.

9:40—**The Role of Surgery in Endocrine Disease**—Richard E. Gardner, M.D.

10:40—**Endocrine Gynecologic Problems in General Practice**—Edmund W. Overstreet, M.D.

11:20—**Case Presentations and Discussion**—Eugene Eisenberg, M.D., Moderator; Richard E. Gardner, M.D.; Edmund W. Overstreet, M.D.

Afternoon Meetings

2:00—**Modern Concepts of Gout and Their Clinical Applications**—Alexander B. Gutman, M.D.

2:40—**Endocrine Factors in Hypertension**—Edward G. Biglieri, M.D.

3:35—**New Approaches in Diabetes**—Vincent Di Raimondo, M.D.

ELECTIVES

4:15—**Panel Discussions** (you may go to one of your choice).

PANEL 1: **Metabolic Problems in Surgery**—Edward G. Biglieri, M.D.; Richard E. Gardner, M.D.

PANEL 2: **Arthritis and Bone Diseases**—Eugene Eisenberg, M.D.; Alexander B. Gutman, M.D.

PANEL 3: **Diabetes and Pregnancy**—Vincent Di Raimondo, M.D.; Edmund W. Overstreet, M.D.

FRIDAY, MAY 4

Morning Meetings

9:00—**Recent Advances in Diseases of the Adrenals**—Peter H. Forsham, M.D.

9:40—**Endocrine Aspects of Malignancy**—Maurice Galante, M.D.

10:40—**Case Presentations and Panel Discussions**—Francis S. Greenspan, M.D., Moderator; Peter H. Forsham, M.D.; Maurice Galante, M.D.

Afternoon Meetings

2:00—**Inborn Errors of Metabolism**—Alexander B. Gutman, M.D.

2:40—**A Fresh Look at Thyroid Disease**—Francis S. Greenspan, M.D.

3:35—**Panel Discussion: The Non-Endocrine Uses of Hormones**—Peter H. Forsham, M.D., Moderator; Maurice Galante, M.D.; Francis S. Greenspan, M.D.; Alexander B. Gutman, M.D.

HOST: Fresno County Medical Society . . . **REGIONAL CHAIRMAN:** Samuel Ross, M.D., 2946 Fresno Street, Fresno. **INSTITUTE FEE:** $15.00. For additional information contact Postgraduate Activities Office, California Medical Association, 693 Sutter Street, San Francisco 2. **All California Medical Association members and their families are cordially invited to attend.**

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, *M.D., M.P.H.*
Director, State Department of Public Health

Seventy-nine cases of typhoid fever were reported in California in 1961, with one death. The 1960 incidence was 62 cases and one death.

The pattern of occurrence is generally the same as that observed for the past six years with some minor variations. There has been a gradual increase in the proportion of cases contracted outside the state, from about a third in 1956 to 55.7 per cent in 1961.

Of the 35 cases contracted in California, carriers were the most important source; in 1961, 19 of 35 cases were traced to a carrier and only five of these to a carrier who had been previously identified. One of these cases occurred in a carrier family in which other members of the household had refused to be vaccinated. Two of the remaining four cases were traced to carriers who had been lost to supervision for some years.

For the last six years Mexico has been the most important place of contraction for out-of-state cases of typhoid. This was even more pronounced in 1961, when 37 cases, 19 Mexican national farm laborer cases, were reported. All of the 19 crossed the border into California during the incubation period of the disease but by the time the cases were diagnosed, these laborers had been scattered over the state so that cases were reported from 11 counties.

Typhoid fever cases and an occasional death due to typhoid continue to occur in California year after year. Epidemics traced to contaminated water have not occurred for some years. The most important source in recent years have been carriers, out-of-state travel, particularly to Mexico, and importation of Mexican nationals in the incubation period of the disease.

* * *

Medical supervision is now required for agricultural employees regularly occupied in the formulation and application of certain phosphate ester pesticides. This is incorporated in new agricultural safety orders adopted by the California Industrial Safety Board in consultation with this department.

In part, the orders require the services of a licensed physician to provide medical supervision where employees are regularly occupied in the spreading, spraying, dusting or other application or formulation of organic phosphate injurious materials.

The new orders were prompted by the increasingly alarming problem of chemical poisoning among agricultural employees. Agriculture has the highest occupational disease rate of any industry in California and the toxic organophosphorous pesticides are the most serious occupational disease hazards.

* * *

About the middle of last January, seven children in a small rural school in Glenn County became ill with infectious hepatitis. With one exception all the cases occurred in one classroom. Six of the children had frank icterus and several were put in hospital. The onset within so short a period and the concentration in one classrom pointed to a common source as the mode of spread.

The water, the sewage facilities and the kitchen at the school were inspected and found to be in good operating condition without apparent break in safety. Questioning of the ill children and their parents did not elicit any after-school activity that would bring them all together.

Although the source could not be definitely established, the presumption is that a Christmas party held on the last day of school in each classroom may have been the point of spread. On that occasion homemade food was brought to school by the children and freely distributed within the room.

On January 29, gamma globulin in the recommended dosage of .01 cc. per pound of body weight was given to all the children at the school, with gamma globulin purchased by the school board and augmented by supply from the state reserve.

INFORMATION

Professional Corporation Proposals*

HOWARD HASSARD, *Legal Counsel*
California Medical Association

MUCH INTEREST has been aroused by proposals at the federal level and by legislation in several states which seek to provide self-employed individuals (that is, physicians, attorneys, accountants, etc.) with retirement plan income tax benefits similar to those afforded employees and officers covered by corporate pension plans.

Much misunderstanding and much misinformation—a great deal of it due to premature or incomplete interpretation of a most complex subject—has resulted. Oversimplification has compounded the confusion. It may be presumptuous to assume that this brief résumé will help provide clarification; nevertheless, that is its objective.

First, it must be understood—and continually kept in mind—that we are dealing with provisions of the federal law governing income taxes. No state legislation can abrogate, modify or in any way impede application of these provisions. Nor can states legislate interpretations at variance with federal decree.

Therefore, extension of certain benefits to include other groups not now stipulated in internal revenue regulations should be sought by federal statute equally applicable throughout the United States. H.R. 10, known as the Keogh Bill, proposes such a statute. It has passed the House of Representatives and is being considered by the Senate Finance Committee.

The Treasury Department is opposed to this measure because even though it grants some tax advantages for retirement savings of self-employed, it still treats this group differently than corporate executives and employees. It would, in that sense, be at least a temporary solution.

Other amendments to the Federal Revenue Law have been proposed. The Treasury Department and tax specialists have expressed reservations about all of them. Until there is a comprehensive tax reform program with a general examination of the tax provisions in the whole pension and retirement area, there is little likelihood that federal laws will be amended to accomplish the desired aims.

The other approach to a solution has been at the state level, where, by means of legislation, attempts have been made to make the conditions fit federal requirements. Twelve states already have enacted these so-called professional corporation laws, others have them under consideration.

A.B. 2733 was introduced in the California Legislature in 1961 to accomplish this purpose. It was not passed, but it is being studied by a legislative interim committee and by committees of the State Bar of California, the California Medical Association, and other interested groups. These studies include exhaustive analyses of many existing and proposed legislative measures.

To date, only one professional group has been tested and held qualified by federal court decree for a tax-exempt pension trust fund equivalent to that of a corporation. This is the Kintner medical group in Montana. There, the laws of the state permit the formation of an association which has certain characteristics of, but not necessarily the structure of, a business corporation. The federal court held that this type of organization was taxable as a corporation.

Following the Kintner decision, the Internal Revenue Service announced regulations describing corporate characteristics that must be intrinsic in an association or partnership if it is to be taxed as a corporation. These characteristics require it to have:

1. Associates,
2. Business purpose,
3. Limited liability,
4. Centralized management,
5. Continuity of life,
6. Free transferability of interests.

Experienced tax attorneys believe California law does *not* permit a professional group to qualify as a corporation, at least under stipulations 3 and 4 above. Nor, they believe, would A.B. 2733 as written provide a solution. Even though it would affix the label of corporation to a professional group seeking such status, it would not bind the federal government in its interpretation of what constitutes a corporation for tax purposes.

This is the situation yet to be faced by those states with existing enabling legislation on this matter. Until they have undergone testing by federal courts—which seems inevitable—there is no assurance that these state statutes will be effective. So-called professional corporations formed under their provisions could find themselves liable for substantial assessments for back taxes, rather than enjoying the retirement fund tax exemption they had sought.

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*For brevity necessary for publication, this article drastically condenses a legal problem that is very complex. It is not a legal opinion but a news item for general information.

Considerable thought has been given to approaching the problem in California by so amending the General Corporation Act and the various applicable sections of the Business and Professions Code that professions could legally be practiced by a professional corporation.

Under existing state law, no corporation, as such, can practice a profession such as medicine, law or dentistry. Appropriate changes in the laws perhaps could be made to permit *only* licensed individuals to establish professional corporations.

It has been suggested that if such a corporation becomes possible, it be required to make application to the appropriate licensing board for a Certificate of Registration which would expressly authorize the rendering of professional services. It is further proposed that shares of capital stock in such a professional corporation be held only by persons licensed to practice a particular profession, that such shares be transferable only to a licensed person or to a registered professional corporation, and that a reasonable period of time for disposal of such stock be provided for shareholders who are disqualified or who die. Provision also would be made for suspension or revocation of certificates upon adequate and proper grounds.

Pursuit of this solution brings many disturbing eddies in its wake. There are problems concerning maintenance of the professional relationship between professional associates and between patient and physician, or client and lawyer. Standards of professional conduct, or the disciplinary powers of any agency over licensed persons could be confronted with serious interference.

Too, the corporate form of practice might be found awkward or cumbersome. Sale of interest in the corporation would be encumbered, transference of pension benefit equities could be difficult. The business structure of the corporation could be onerous—dealings with articles of incorporation, designation of directors and officers, bylaws, amendments, corporate seal, elections, meetings, minutes; compensation, stock certificates, capital, dividends, annual reports, audits, means of sale, transfer and dissolution.

If this concept of a professional corporation is to be recommended by the professions and is to serve the best interests of all, old axioms must be challenged and new ground must be plowed—and the benefits to be gained must be weighed against those that may have to be surrendered.

Cancer: Unproven Methods of Diagnosis and Treatment

The Cancer Advisory Council, established under Senate Bill 194 in 1959 to investigate and regulate unproven cancer diagnosis and treatment methods, has reported the 1961 activities of the Council. Dr. John W. Cline was reelected chairman of the 15-member Council. The report is summarized as follows:

1. "Harmonizer"

A doctor of chiropractic in the Los Angeles area has treated cancer with an electronic device known as the "Harmonizer." A cancer patient visited the offices of the practitioner and was offered and received treatment to the cancer area with the device. After an investigatory hearing was held, the doctor on October 11, 1961, signed a stipulation to the effect that a cease and desist order that might be issued by the State Department of Public Health would be respected. Under such an order there would be no further use of the Harmonizer or any similar device in the diagnosis, treatment, alleviation, or cure of cancer in human beings. This matter was referred to the Cancer Advisory Council on December 13, 1961, where findings of fact and a recommendation for the issuance of such an order were made and forwarded to the Director of Public Health. Upon this recommendation, the director issued the cease and desist order on December 26, 1961.

2. Hoxsey Treatment

Two additional proponents of the Hoxsey treatment were investigated. It was determined that the herbs and chemicals they used in treating cancer were varying combinations of the ingredients used in the original Hoxsey treatment of cancer. The Department has held investigatory hearings in these instances where samples of drugs were obtained and testimony was received. Further action is pending in these cases and also in the case of the Fremont-Christian Clinic which was investigated in 1960. The operators of the Fremont-Christian Clinic were indicted by the 1961 Los Angeles County Grand Jury for various criminal acts and after several deferments were brought to trial in January 1962.

3. Laetrile

Proponents of Laetrile were subpoenaed to appear at an investigatory hearing on November 27, 1961. At this hearing, data on methods of preparation were received and the hearing was then continued until January 31, 1962, to allow additional time for the submission of samples and additional data.

4. **General Activities**

During the past calendar year various other types of cures have been subjected to preliminary investigation by the staff. These include dietary cures, bizarre devices and biological preparations, some of which have long been in use, while others are relatively new to California. Files are being prepared on all of these cases for future presentation to the Council.

During the period covered by this report, the Department and Council have received invaluable assistance and guidance from the Attorney General's office and other agencies, such as the California Medical Association and the county medical societies; the Division of Laboratories and Bureau of Food and Drug Inspection of the State Department of Health; the California Division of the American Cancer Society and its component county branches; the Medical and Osteopathic Boards of Medical Examiners; the State Board of Pharmacy; various county health departments; and the schools of medicine within the State of California.

693 Sutter Street, San Francisco 2.

Public Relations and Performance

MALCOLM S. M. WATTS, *M.D.*, San Francisco
Chairman, Public Relations Committee, California Medical Association

PUBLIC RELATIONS can only be a reflection of performance. Where performance is good this can be easily communicated in good public relations. Where performance is less than good no amount of "public relations" can correct or obscure the inadequacies. These realities have provided many opportunities and posed many problems for medicine's public relations. The reasonable approach has been to build our public relations program upon our strengths and to seek correction of our weaknesses. This has been the policy of your C.M.A. Public Relations Committee during the last four years. It has not been easy. We find a very real hesitancy on the part of many in the profession to proclaim or even call attention to many of its fine accomplishments. Some have lingering doubts that this is ethical; others feel that it is plainly unnecessary. On the other hand there are many who would have us thunder our, or their, convictions, in as dignified a manner as possible, in matters of socioeconomics in areas where the performance of free enterprise medicine has clearly fallen behind the demands of our culture. These proponents of thundering—the hard sell, if you like—tend to forget that the product to be sold must measure up to specifications and fulfill a need, or the reputation of the hard seller for integrity is severely compromised. Medicine can afford no compromise with integrity or performance and neither can medicine's public relations. We have wasted much time and expended much energy which has been lost in heat generated by these fundamentally paralyzing frictions.

It is true that public relations can only be a reflection of performance. What about medicine's performance? It is superb in professional aspects of medical care—the professional care of the patient. We have taken advantage of this in our public relations program. Your Public Relations Committee through its Subcommittee on Radio, Television and Motion Pictures and with the help of county medical societies throughout the state has sought to project this professional performance through "Doctors at Work," a statewide television series of public education programs. These programs have been astonishingly well received and have enormously improved public understanding of how doctors work with patients and what the doctor does in medical care. They have emphasized the integrity of medicine and its concern with the patient. This good performance of individual physicians has been identified with organized medicine in these programs. This is the area of medicine's strongest performance and it is the area of the strongest C.M.A. public relations effort.

A second area of great strength is the public service programs of county medical societies. Again the harvest in public relations is a function of performance in each county. The C.M.A. Public Relations Committee, working through a subcommittee and the C.M.A. staff, has sought to encourage county societies to increase the number of these programs and to derive public relations benefit from them. A goal of 100 new programs a year throughout the state has been set and this has been very nearly achieved in the last year. These programs give visible expression to the concern of doctors and organized medicine with community

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Presented at the Annual Conference of County Society Officers, California Medical Association, Los Angeles, February 17, 1962.

health and welfare. They are always well received and with skillful public relations management are acclaimed in the community. Public service programs are limited only by the willingness of county medical societies and their members to perform.

There are many other strengths. But what about weaknesses in medicine's performance? The weaknesses lie precisely where the greatest public relations stresses lie—in medicine's performance with regard to internal and external communications, and with regard to modern sociological, economic and political problems both within and without the profession. These weaknesses are of vital importance at a time when public support of medicine's position in the patient interest and the public interest is so essential. In substance they constitute a failure of the democratic free enterprise system of physicians and organized medicine to adapt quickly enough to evolutionary changes in our culture. Sluggishness in adaptation is a most serious threat to survival in an environment which is undergoing change. This sociobiologic fact must be clearly understood in relation to the future of American medicine.

Why has this come about? The answer seems obvious in medicine and in the world. Scientific progress has produced specialization in every aspect of human life and this specialization in turn has resulted in greater interdependence among human beings. This growing interdependence finds expression in new and increasingly urgent social, economic and political problems of human interrelationship which must be solved. They cannot be ignored. This surely needs no documentation. These new problems are inescapable and must be solved by government regulation and control unless better answers can be found by a responsible democratic free enterprise system. At the moment, medicine has the burden of the battle. It is under great stress and is manifesting every sign of tension and anxiety. It must oppose government regulation and control, but at the same time it must also find a better answer. The issue will be resolved, not by any public relations smokescreen, but by the integrity and effectiveness of medicine's performance in finding a better answer. Public relations follows and cannot precede performance.

I would like to call upon the profession to address itself more directly than it ever has to the scientific, socioeconomic and political realities of the day. They will not go away. They cannot be ignored. They will not be swept under the rug. And we can approach these problems with familiar techniques in which we are skilled. The principles of diagnosis, treatment, prevention and rehabilitation can and must be applied to the socioeconomic problems of medical care to make a better medicine than government medicine readily available to all. These same principles must be applied to the sacrosanct but cumbersome political and administrative organization of medicine which has proven inept and inadequate for modern needs. And they must be applied to the problem of internal and external communications which must promptly be solved if free and independent physicians are to make responsible voluntary decisions and to take the responsible voluntary action which is now critically necessary for the adaptation and survival of free enterprise medicine in the modern world.

The core question of our times is whether or not the democratic free enterprise system, as we know it in medicine and elsewhere, is capable of voluntarily and responsibly solving these problems of scientific progress, specialization and interdependence, or whether they must be solved by government regulation and control.

I believe physicians *can* do this for medicine and for medical care in this nation. Whether we *will* or not is another thing. At stake is the very survival for our voluntary free enterprise system. To survive we must put aside the petty politics and unthinking prejudices which are diverting our energies at every level from the real problems which we must solve.

We are a unique brotherhood. We are intelligent and educated. We have a common goal. We have a traditional selfless interest in the health and welfare of people which is also unique. We have roots and branches which reach into each political party and every segment of society, and this too is unique. We have proven professional techniques which can be applied to find solutions to these problems. I think this is also unique.

But *will* we do what must be done? It is this group of medical leaders right here in this room who can show the way. We can see that the issues are faced squarely. The House of Delegates can demand the necessary action from the Council, from the C.M.A. staff and the California delegation to the A.M.A. Wherever our performance comes to meet the measure of the times, this will make possible a strong public relations effort which will be decisive.

In the meantime, your public relations program can continue to serve a useful function in building up a valuable reservoir of favorable public attitude toward physicians and organized medicine upon which we may draw in the interim.

693 Sutter Street, San Francisco 2.

C.M.A. Organizational Activities

HOWARD HASSARD, San Francisco
Executive Director, California Medical Association

The California Medical Association, in its day-to-day activities, is involved with many matters that concern not only the profession's interest but, to an even greater degree, perhaps, the public interest.

The many man-hours of travel and time, talk and action could form a sizeable figure. Yet there is no simple way to measure the energies devoted by you and your colleagues to the functioning of the California Medical Association. Perhaps the closest we can come to it is by briefly outlining the workings of the C.M.A. through its more than 75 commissions, committees and subcommittees, involving more than 500 physicians, under the direction of the House of Delegates and the Council.

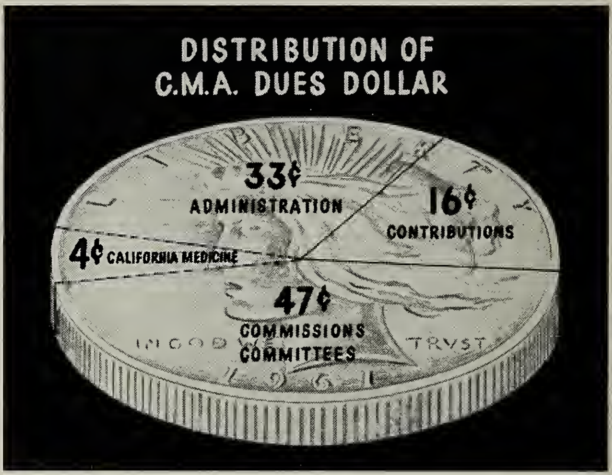
This is the organizational structure of the California Medical Association—organized medicine, if you will—in which individual physicians have joined forces to perform those duties and services in the professional and public interest that could *not* be done without a community of effort.

This community of effort requires not only the energy and lost leisure and income hours devoted to it by you and your colleagues, but also a not inconsiderable amount of money. Let's take a look at how this money is spent.

Each dollar of your C.M.A. dues is broadly divided as shown in the accompanying chart—33 cents for administration, 16 cents for contributions, 47 cents for commissions and committees and 4 cents for California Medicine.

Administrative expense includes, as its largest portion, 12 cents of the dues dollar to cover costs of meetings (such as this one) and travel expense. Administrative salaries, pensions and employee benefits require nine-and-a-half cents from your dues dollar. The remainder covers such things as professional fees, office and equipment, taxes and insurance, placement service, Woman's Auxiliary and miscellaneous items.

Thirteen-and-a-half cents of your dues dollar (actually, it totals $10 off the top) is contributed by you to the American Medical Education Foundation. Eighty per cent of this returns to the three California medical schools which are not primarily tax-supported (and each recently received more than $50,000 from this contribution). The remainder is spread among the rest of America's medical schools.



Physicians' Benevolence absorbs another cent-and-a-half of your dollar to provide aid when a physician or his family is in need of financial help. Many physicians, their widows and their children have been helped over some rough spots through this fund.

The remaining contributions go toward nurse recruitment and toward medical libraries.

Three dollars of your dues—which boils down to four cents out of each dollar—pays your subscription to California Medicine. And I'm sure you'll agree with the experts in such matters that this is a state medical journal of first-class stature.

Commissions and committees of course make up the biggest area of activity—and within it the largest portion of the budget is assigned to the Commission on Public Policy.

Twenty cents of the dues dollar is required for this commission—seven cents of that for legislative committee activity and 13 cents for the total public relations program.

Another seven cents of this 47-cent slice supports the Bureau of Research and Planning, and the remaining 20 cents is distributed among six other commissions.

The watchdog of the C.M.A. treasury is the Council, which meets regularly every month in the interim between House of Delegates sessions to carry out the directives of that body. The Council, as the administrative arm of the C.M.A., recom-

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Presented at the Annual Conference of County Society Officers, Los Angeles, February 17, 1962.

mends and appoints the members of all commissions and committees and it is to the Council—except in special cases of House committees—that these groups report their findings for approval, modification or rejection.

Seven commissions cover as many fields of activity, their areas of interest and of jurisdiction being indicated by their names:

- Medical Services
- Public Agencies
- Community Health Services
- Public Policy
- Medical Education
- Cancer
- Professional Welfare.

The Commission on Medical Services studies and recommends methods under which medical services are furnished or organized and deals with all phases of medical economics. Its studies and analyses require continuing contact with labor, management, the insurance industry, consumer groups, state and federal agencies and county society committees.

Through its committees, the Commission on Medical Services deals with such matters as workmen's compensation fees, C.P.S. fee schedules, periodic review of the Relative Value Studies, government program fees, the special problems of the elderly, rehabilitation, mediation procedures, liaison with the insurance industry and with local medical society-sponsored prepayment plans.

One of these committees, the Committee on Aging, working with representatives of allied professional organizations, has helped develop the California Joint Council to Improve the Health Care of the Aged. This body established standards by which the care of patients in nursing homes and relating facilities can be greatly improved. From this has developed the California Commission on Accreditation of Nursing Homes and Related Facilities, which is the first statewide organization of this type in the nation.

Another group, the Committee on Government Financed Medical Care and its liaison subcommittees, is continuously and diligently representing the private practice of medicine where government seeks to purchase medical care. Without the work of this committee it is doubtful whether we would have had programs that medicine can live with or had C.P.S. as a fiscal agent for any of the three major government programs—Public Assistance, Veterans' Hometown Care and Medicare.

Within the Commission on Public Agencies are eight active committees concerned with a broad spectrum of matters closely involving the practice of medicine.

The Committee on State Medical Services maintains close liaison with the State Department of Public Health, assisting in the guidance of its programs to insure that standards of medical care are maintained.

The Committee on Veterans Affairs studies the medical needs of the veteran and evaluates the health care facilities available to him from the state and federal governments.

Another of this commission's committees—that on adoptions—has prepared and distributed to the 18,000 members a Manual of Adoptions, a basic guide to the steps that must be taken for either independent or agency adoptions.

You are, of course, well aware of the results of work by another of this commission's committees—the one concerned with other professions. It has been at the very heart of the long-time negotiations leading to unification of the medical and osteopathic professions.

Other specific committee activities within the Public Agencies Commission include appraisal of problems and legislation relating to narcotics and dangerous drugs, alcoholic rehabilitation and mental health.

The Commission on Community Health Services coordinates eight extremely active committees in matters of broad public, as well as professional, interest. They deal with rural health, school health, occupational health, disaster medical care, blood banks, traffic safety and allied health agencies.

In addition, this commission is responsible for development, preparation and distribution of weekly articles on health facts that appear regularly in 280 newspapers, labor journals and organizational publications throughout California. Close cooperation is maintained with county society headquarters in the distribution of these articles.

Incidentally, the editorial "committee" used by the commission is, without doubt, the biggest one of all in point of numbers. It includes 196 physicians, representing all fields of practice, who serve as advisors as to topics and as critics of content for the articles.

Regional conferences on rural health, in conjunction with the California Farm Bureau Federation—with local physicians participating in the programs—have resulted in much favorable reaction.

Guides to county societies on suggested programs for first aid training of ambulance drivers and on the reporting of diseases such as epilepsy, which could contribute to traffic accidents, have been prepared by the traffic safety committee as part of this commission's functions.

Until such time as action is taken on the report of the ad hoc committee on continuing education and scientific activities, the structure of the Commission on Medical Education will remain as it now is. That is, it will function through four committees in the areas of maternal and child care, scientific work, postgraduate activities and medical motion pictures.

The Committee on Scientific Work is, of course, responsible for the character and scope of the scientific programs of each annual session—a task which, understandably, is a year-round undertaking and one that calls on a large number of members for support and participation.

Continuing investigations into the causes of maternal and infant deaths are being conducted by the committee in that field.

Postgraduate activities, apart from the annual session, include the sponsoring of five regional institutes and from eight to ten circuit courses a year in areas away from urban centers. These are conducted in cooperation with five medical schools and with regional committees from the county medical societies.

Not one, but five C.M.A. committees are actively working under the Commission on Cancer, educating and informing both the profession and the public. Postgraduate courses, tumor tissue registry consultation and advice, assistance in establishing functional tumor boards, and the investigation and exposure of cancer quackery are among their activities.

The Commission on Professional Welfare coordinates the work of several committees concerned with some rather critical areas relating to the practice of medicine. Their considerations deal with professional liability, group insurance generally and the C.M.A. disability insurance program. They also are studying the relationship between medical school faculty members and those in private practice in areas surrounding the schools.

To depart from the commission and committee pattern for a moment, I'd like to touch briefly on three other areas of activity of concern to all of you—physician placement, the C.M.A.-C.H.A. Liaison Committee, and our Bureau of Research and Planning.

Through its free placement service, working directly with physicians and with communities, the C.M.A. physicians' placement bureau is helping to meet the growing problem of a shortage of medical manpower created by the rapid growth of population in California.

The Guiding Principles for Physician-Hospital Relationships were first developed by the C.M.A.-C.H.A. Liaison committee and then approved by the House of Delegates. They are a means of assuring the best medical care for patients in the safest and most economical manner—and they have been widely accepted.

I am pleased to report that requests for appraisal of hospital staff organization and procedures, based on the Guiding Principles, have been received from more than 50 medical staffs of hospitals—again requiring a great deal of committee effort.

As for the Bureau of Research and Planning, here you have one of the finest mechanisms available to the medical profession for the collection and correlation of facts relating to the socio-economics of medical practice. It has proved of invaluable assistance in our development of information for the profession on many issues with which we are faced.

And now to conclude with the final commission —that on public policy.

The two main elements of this commission are the Committee on Legislation and the Committee on Public Relations. They are, perhaps, the most delicately balanced, the most sensitive areas of all with which the C.M.A. is concerned. Virtually everything done by the Association and by every individual member is reflected, in some manner, in the end results achieved by these two committees.

In summary, then—each of the C.M.A. commissions and committees responds to and acts upon statewide matters relating to the profession and to the public. Several of them are designed to serve county societies or groups of societies as sources of information, of research and of counsel in local projects.

If there is a public need in the field of health, the C.M.A. has, or will arrange to have, personnel to investigate that need and to provide an answer to the problem—if one exists.

This, then, is the true nature, the true purpose of organized medicine and of the organizational activities of the California Medical Association.

693 Sutter Street, San Francisco 2.

NEWS & NOTES

NATIONAL · STATE · COUNTY

ALAMEDA

A three-year grant totaling $45,000 has been made by the Baker Laboratories, Inc. to Dr. Arild E. Hansen, research director at Children's Hospital of the East Bay, Oakland, California, for a **study to delineate the exact role played by fat in the diet of human infants.** One aim of the study will be to determine minimum and optimum levels of the total fat content of the diet, as well as the need of certain fatty acids (especially linoleic acid).

LOS ANGELES

Five California medical schools early this month received **"no strings attached" gifts** totaling $168,873.67, most of it from California physicians in whose behalf the awards were made.

Checks were presented by C.M.A. President Warren L. Bostick to representatives of the five schools during the annual meeting of the Student American Medical Association, composed of members of medical school classes, interns and residents.

The money is part of $1,303,161 **contributed by the nation's physicians** during 1961 and now being distributed to the 86 medical schools of record in 1961 through the American Medical Association Education and Research Foundation.

The amounts received by the five schools in California are: Loma Linda University, $55,684.56; Stanford University, $51,956.00: University of Southern California, $50,990.57; University of California, San Francisco, $5,798.07; University of California, Los Angeles, $4,444.41.

Newest California medical school, the California College of Medicine, will participate in the fund next year.

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Establishment of the **Jules Stein Eye Institute** at the Medical Center of the University of California at Los Angeles was announced recently. Jules Stein, for whom the Institute will be named, is founder and chairman of the board of the Music Corporation of America and a former practicing ophthalmologist. He and Mrs. Stein have pledged over a million dollars for the construction and equipment of a new building. It is expected that contributions from other interested individuals, organizations and public health agencies when integrated with already approved University programs will provide the balance of the more than $3,500,000 needed for the purpose.

The new Institute will be a comprehensive multi-disciplinary center devoted to research in the sciences related to vision, the care of patients with eye disease, and the dissemination of knowledge in the broad field of ophthalmology.

SAN FRANCISCO

The Ninth Annual **Fort Miley Symposium,** spring session, sponsored by San Francisco Academy of General Practice in cooperation with Medical Service of the Veterans Administration Hospital of San Francisco, 42nd Avenue and Clement Street, will begin April 17. Meetings will be held each Tuesday evening between 8 and 10 o'clock from April 17 to May 22. Further information may be obtained from Dr. Lionel A. Pereyra, 2107 Van Ness Avenue, San Francisco 9.

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The Presbyterian Medical Center Department of Psychiatry will sponsor an international symposium, **"Newer Psychotropic Drugs and Human Behavior,"** to be held at the Center April 28 and 29. Among the participants will be Sir Julian Huxley and James Sargant, F.R.C.P., both of London; J. Collard, M.D., University of Liege, Belgium; and a host of other eminent scientists from the United States. Further information may be obtained from Presbyterian Medical Center, Webster at Clay streets, San Francisco 15.

SANTA CLARA

A grant of $1,100,000 was awarded to the Stanford University School of Medicine by the Joseph P. Kennedy, Jr. Memorial Foundation. One million dollars will be used to build a new research center for **studies related to mental retardation.** The remainder will be used over a four-year period to stimulate new educational and research projects in that field.

The new facilities will be known as the Lt. Joseph P. Kennedy, Jr., Laboratories for Molecular Medicine. Dr. Joshua Lederberg, a 1958 winner of the Nobel Prize and head of the Department of Genetics at Stanford, will coordinate the research and educational activities of the laboratories. Many disciplines will be represented in the research program, including biochemistry and genetics, as well as pediatrics, obstetrics, neurology and psychiatry.

GENERAL

The research library of the Institute of Experimental Medicine and Surgery of the University of Montreal, having suffered **extensive losses owing to destruction by fire,** has appealed to the readers of CALIFORNIA MEDICINE to **send reprints** of their work, especially those dealing with endocrinology and stress, to the library, Institute of Experimental Medicine and Surgery, University of Montreal, P. O. Box 6128, Montreal 26, Canada.

At the same time the library pointed out that "since our permanent mailing list was also destroyed, we shall be able to send reprints of our own publications only to those who write for them."

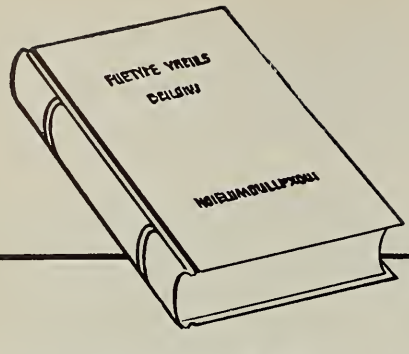
* * *

Grants to each of the 86 medical schools in the United States for **student scholarships** totalling $845,000 were announced today by the Trustees of the Avalon Foundation.

The amount available to each four-year medical school is $10,000, and to each two-year medical school $5,000. The current grants are additional to grants made by Avalon Foundation in 1961 to the same 86 medical schools in an aggregate amount exceeding $1,100,000.

They were designated an **"unrestricted supplement to the scholarship funds** of each medical school, to be expended in conformity with the school's policy and to be available until expended for nonrefundable grants to students."

The grants are designed to attract more students and more competent students to the study of medicine and to help meet the pressing need for more physicians in the United States.



THE PHYSICIAN'S *Bookshelf*

MECHANISMS OF DISEASE—An Introduction to Pathology—Ruy Perez-Tamayo, M.D., Professor and Director of the Department of Pathology of the School of Medicine National University of Mexico. W. B. Saunders Company, Philadelphia, 1961. 512 pages, illustrated, $14.00.

This book is dedicated to the clear presentation of basic processes in disease, the nature of which is considered in a philosophical preface that clarifies the concept of "life under abnormal conditions." The author, a pathologist, makes use of the approach of conventional pathology in basing some discussions upon morphologic alterations in cells and tissues, but changes in gross or microscopic structure are used as indices, comparable to clinical or physiological measurements, which also are not disease *per se* but constitute evidence from which the nature of basic changes can be perceived more clearly. Appropriate consideration of all kinds of evidence has led to success in the synthesis of clear ideas of the mechanisms involved in disease.

The discussions of mechanisms are penetrating but are reasonably concise, and do not obscure the broad ideas by enumeration of detail, which is available through abundant quoted references. No attempt is made to consider diseases as isolated entities, but rather as instances of the general mechanisms by which homeostasis is achieved. The result is practical and interesting. Illustrations are not numerous but are well selected to supplement the text.

This book will provide a student of medicine with an authoritative and readable presentation of general pathology, and should also be of use to all specialists in medicine as a means of broadening their perspective, and so counteracting some of the undesirable results of the high degree of specialization that has occurred during the last century.

Alvin J. Cox, M.D.

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HEALTH IN INDUSTRY—A Guide for Engineers, Executives, and Doctors—R. C. Browne, M.A., D.M. (Oxon.), M.R.C.P. (London), Nuffield Professor of Industrial Health, King's College, Newcastle Upon Tyne (University of Durham); Physician, Royal Victoria Infirmary, Newcastle upon Tyne, and Dryburn Hospital, Durham; Director, North of England Industrial Health Advisory Service. The Williams & Wilkins Co., Baltimore 2, Maryland, exclusive U. S. agents, 1961. 157 pages, $4.50.

Excluding the three appendices, this small monograph consists of only 139 pages. There are nine photographic illustrations and approximately 52 drawings, figures and tables. The eight chapters bear the following captions, The Health of the Executive, The Administrative Importance of Absence from Work Due to Sickness, The Design of the Equipment from the Human Point of View, Some Human Aspects of Industrial Accidents, Automation, Industrial Fatigue, The Physical Surroundings in Which Work Is Done and Chemical Substances in the Environment Affecting the Human Being.

The content of this book has been derived from lectures given to medical students, mechanical engineers and chemists. In an attempt to justify its publication the author states in the preface that "the boards of directors of modern industry are composed of engineers, chemists, lawyers, accountants and managers who have been trained within industry itself. These are the men who create the environment in which men work."

This reviewer assumes that in using the word *create* the author implies that these are the men who provide the monetary means by which an opportunity to work is created. Having this lay group in mind the author states in the preface that "much omission and simplification has been necessary to ensure a generally acceptable presentation." We believe the simplification has been overdone.

This book may have some limited value for men in management but it has no value to the physician or hygienist who seeks to control or remove environmental hazards in work places. The bibliography is exceedingly scant. Some chapters contain no references to the related literature.

Rutherford T. Johnstone, M.D.

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PATHOLOGY OF THE FETUS AND INFANT—Second Edition—Edith L. Potter, M.D., Ph.D., Professor of Pathology, Department of Obstetrics and Gynecology, The University of Chicago; Pathologist, the Chicago Lying-in Hospital. Year Book Medical Publishers, Inc., 200 East Illinois Street, Chicago 11, Illinois, 1961. 670 pages, 681 figures, $22.00.

The first edition of this volume, "Pathology of the Fetus and the Newborn," proved to be a popular and useful book. The second edition, as indicated by the change in title, has increased its scope and size to include conditions affecting the infant during the first year of life.

As was the case in the first edition, clinical material is frequently presented in an arbitrary manner. The following are a few of the many opinions which are presented as facts: "Meconium in the amniotic fluid is a grave sign," occult cord prolapse "is the common cause of fetal distress," the "absence of the fallopian tubes, uterus and vagina must be extremely rare in infants who are otherwise normal," and it "is possible for two very light skinned individuals, both of whom are part Negro, to have children with much darker skin."

The organization of the material continues to be somewhat cumbersome. Erythroblastosis, for example, is discussed in at least fifteen different areas of the book. While the table of contents is impressive, the discussions of some topics such as heredity and inborn errors of metabolism, are so brief as to serve no useful purpose.

Despite these minor criticisms, the present edition continues to be a valuable and important book. Of particular value as reference sources are the chapters on kidneys and ureters, skeleton, tumors, and the central nervous system. The book is highly recommended to physicians concerned with the problems of the fetus or infant.

R. C. Goodlin, M.D.

MEASUREMENTS OF EXOCRINE AND ENDOCRINE FUNCTIONS OF THE PANCREAS (With a Section on Fibrocystic Disease). Proceedings of the Second Applied Seminar of the Association of Clinical Scientists—Edited by F. William Sunderman, M.D., Ph.D., Sc.D., Director, Division of Metabolic Research and Clinical Professor of Medicine, Jefferson Medical College, Philadelphia, Pa.; and F. William Sunderman, Jr., M.D., Instructor in Medicine, Jefferson Medical College, Philadelphia; Consultant in Clinical Pathology, Harrisburg Hospital, Harrisburg, Pa. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pennsylvania, 1961. 203 pages, $11.00.

This book constitutes the edited proceedings of a seminar on "Measurements of Pancreatic Function in Clinical Medicine" held under the auspices of the Association of Clinical Scientists. It is generally well-written and well-organized and provides for the physician, the student, or the laboratory technician a concise summary of background, techniques, and interpretations pertinent to most of the important tests which are involved in the diagnosis of diseases of the pancreas. These tests include the common and well-known ones, such as serum amylase concentration, and many uncommon ones, such as trypsin inhibitor capacity of serum. As might be expected in a relatively brief coverage of so large a subject, certain interpretations are incomplete or inadequate. For example, the book does not include the recent discovery that Zollinger-Ellison tumors secrete gastrin, nor does it provide the puzzled reader with a satisfactory appraisal of I^{131}-labelled fat as a means of estimating fat absorption. However, these shortcomings are perhaps inevitable reflections of the enormity of the medical literature, which is now impossible to "freeze" for long enough to publish a book. By the same token it becomes increasingly important to have handy accessible summaries of at least a portion of the literature from time to time. In the fulfillment of the latter function this book is recommended to all those interested in various diseases of the pancreas or in the physiology of the pancreas.

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THERAPEUTIC EXERCISES—KINESIOTHERAPY—O. Leonard Huddleston, M.D., Ph.D., Medical Director, California Rehabilitation Center, Santa Monica, California; Clinical Professor of Physical Medicine, School of Medicine, University of Southern California, Los Angeles, California. F. A. Davis Co., publishers, Philadelphia 3, Pa., 1961. 205 pages, $9.50.

This is a book on therapeutic exercises as practiced at the California Rehabilitation Center (formerly the Kabat Kaiser Institute). The first part of the book explains some of the basic neurophysiology in muscle contraction and movement and then goes on to delineate the exercise program as given in this institution. Great emphasis is placed upon their particular form of neuromuscular reeducation, which is based upon the neurophysiological concepts of proprioceptive facilitation.

The concepts are well explained and easily understandable, and also illustrated by photos demonstrating the various maneuvers involved in giving a patient exercise with this form of reeducation.

Such a system of exercise has been in existence for the past fifteen years. It has various disciples but has never gained widespread acceptance. The teachings are based upon sound physiological principles. However, the amount of practical carryover has never been adequately proven to make them acceptable. Furthermore, the administration of such exercises by therapists is quite strenuous and time consuming, which is also a handicap to their widespread adoption.

The latter part of the book is a review of various equipment used both in physical and occupational therapy to minimize major handicaps. The last chapter is on exercises and specific clinical conditions. However, the terms used are too general to be educational to anyone who is not already cognizant of an exercise program in these conditions.

This book is useful for physical therapists and for those physicians who are interested in learning the fundamentals of the proprioceptive facilitation technique of neuromuscular reduction.

* * *

MEDICINE AND THE NAVY—1200-1900—Volume III, 1714-1815—Christopher Lloyd, F.R.Hist.S., Assistant Professor, Royal Naval College, Greenwich, and Jack L. S. Coulter, F.R.C.S., Surgeon Captain, Royal Naval Medical School. Foreword by Surgeon Vice-Admiral Sir Cyril May, K.B.E., C.B., M.C., F.R.C.S., Late Medical Director General of the Navy. The Williams & Wilkins Co., Baltimore 2, Maryland, exclusive U. S. agents, 1961. 402 pages, $10.00.

This book, which is Volume III of "Medicine and the Navy," a five-volume treatise on medicine and the British Navy—1200 to 1900—covers the period from 1714 to 1815, and hence encompasses the exciting era of the Revolutionary and Napoleonic wars. The story is one of intense interest: One learns all about the function of doctors in the Navy and about the ships as well. It is hard to believe that such primitive conditions could have existed only a little over one hundred years ago, when the chief function of the surgeon was to amputate limbs, without anesthesia and under the horrible and filthy conditions of the cockpit aboard ship. Streams of blood flow everywhere and the shrieks of the wounded and dying present a terrible picture.

Section II deals with the medical history of the wars of the 18th Century. The story of Nelson including his death is vividly told and from a somewhat different point of view from that of the conventional biography.

Section III deals with the naval hospitals—Greenwich, Haslar and Plymouth—all new at the time and replacing the old "contract" system of providing hospital care for service men. The physical conditions, hygiene and nursing are dealt with in detail.

A section on "Sea Diseases"—scurvy, fever, etc., concludes the volume.

Brightly written and well documented, the whole makes an exciting story which is anything but drab and dull.

Arthur L. Bloomfield, M.D.

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DAVID EDWARDES INTRODUCTION TO ANATOMY (1532)—A Facsimile Reproduction With English Translation and an Introductory Essay on Anatomical Studies in Tudor England—C. D. O'Malley and K. F. Russell. Stanford University Press, Stanford, California, 1961. 64 pages, $2.75.

Professors O'Malley and Russell have done us a real service in translating and editing so thoroughly David Edwardes' Introduction to Anatomy (1532). Edwardes first recorded the dissection of a human body in England in this pamphlet of a dozen pages. The description of what could be seen and observed is accurate and clear, beginning with the abdominal contents and going on to more peripheral structures. The gross anatomical description, however, is in sharp contrast to the physiological conclusions which go along with them, in which the standard Galenical views are propagated, such as the statement that "in it the vital spirit coursed upward from the heart through the arteries, having been fully concocted and rarefied, becomes animal spirit, the cause of sensation and motion in the whole body." This little book, printed in England, is issued by the Stanford University Press in attractive format and with a scholarly and appropriate introductory essay.

Arthur L. Bloomfield, M.D.

APPRAISAL OF CURRENT CONCEPTS IN ANESTHESIOLOGY—Edited and assembled by John Adriani, M.D., Professor of Surgery, Tulane University School of Medicine, New Orleans, La.; Clinical Professor of Surgery and Pharmacology, Louisiana State University School of Medicine, New Orleans, La.; Director, Department of Anesthesiology, Charity Hospital of Louisiana, New Orleans, La. The C. V. Mosby Company, St. Louis, Mo., 1961. 279 pages, $7.75.

This book consists of forty-five brief discussions on various topics of interest to Clinical Anesthesiologists.

A few of the many subjects mentioned are: Anesthetic management for cardiotomy; physiologic alterations during induced hypothermia; infant resuscitation; sterilization of special anesthetic agents, and shock and anesthesia. The topics presented have been used in the residency training program at Charity Hospital and have been published as an aid to directors of the training programs and for use by clinical anesthesiologists not connected with a teaching institution.

The subject material is practically all clinical and presented clearly. It is excellent for the purpose for which it was published.

Charles F. McCuskey, M.D.

* * *

RELIEF OF SYMPTOMS—Second Edition—Walter Modell, M.D., F.A.C.P., Director of Clinical Pharmacology and Associate Professor of Pharmacology, Cornell University Medical College, New York, N. Y. C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, Mo., 1961. 374 pages, $11.50.

The great achievement of our time, the cure with a specific drug, is a miracle before which simple relief of a symptom may seem unimportant—or even a bore. Too often today, only the cultist, the charlatan, and the unscientific practitioner consciously and purposefully direct their main efforts to the satisfaction of the patient's initial request—the relief of his symptoms.

It is well to remember that the patient's sensibilities have not changed along with medical science: They are just as basic as ever. Patients feel symptoms, fear them, resent them, react to them and seek relief from them for the same old reasons that they did when symptom treatment was virtually all medicine could offer. If, in the interest of a cure —which may be a long time coming—we ignore the patient's request for relief, and if sufficient alleviation of the symptom does not come directly or indirectly, we must expect that some of them will try to find relief elsewhere. Why else, in this age of science, this era of the triumphant cure, do the practices of the cultist and the charlatan still flourish?

The case for special and consistent consideration of symptom relief rests on two facts: (1) Modern symptom relieving drugs often offer patients more and prompter relief than that which is incidental to treatment of the disease itself. (2) The symptom per se may be a malignant force and deserving of special consideration as such.

Everything discussed in this book bears directly on the relief of symptoms and is planned to serve as a basis for relieving them. The field is broad, and this has made it necessary to consider the cause, composition, and treatment of each symptom separately. The list of twenty-seven discussed is not exhaustive; but, it includes over 95 per cent of those which bring patients to a doctor's office.

There are 24 tables in the book which differentiate generic and proprietary names, listing the various drugs according to their composition, mode of action and mode of administration. These tables alone are worth the price of the book. No single physician can keep up with the variety and complexity of the new drugs being offered by the pharmaceutical manufacturers or with the claims or the origins thereof. With the aid of this book he can bring a good deal of logical order into the pharmaceutical chaos. Tables 7, 8, 9 and 10 (on *hypnotics and sedatives of the barbiturate series*, on *other hypnotics* and *sedatives*, on *tranquilizers and antidepressants*) will be extremely helpful—even if somewhat startling to the average physician—who may be surprised to find the same chemical represented by several different proprietary names and advertised for different conditions.

Dr. Modell's introduction of the clinical problem of gas is a classic which the reviewer feels is worth reproducing:

"Our special social taboos attached to the phenomenon of gas in the intestinal tract make it difficult for both patient and doctor to discuss the accumulation of gas, its movement, its rumblings and—most embarrassing of all—its release. The language available for describing this phenomenon is so equivocal and—even in medical terminology—so qualified by restrictions that the only precise term available is not at present in decent usage. This state of affairs was brought home to me when a patient, one of the world's outstanding lady scientists, found that the most precise as well as the simplest way for her to describe her difficulties was to use a short word which I cannot use here."

Because of its origins (in medical school teaching) as well as its point of view, this book is addressed largely to medical students and to younger graduates whose philosophy and habits of practice have not yet "set." However, we believe that it will appeal greatly to most physicians who are interested in a sensible classification of drugs as well as those concerned with the relief of symptoms.

Edgar Wayburn, M.D.

* * *

CEREBRAL VASCULAR DISEASES—Transactions of the Third Conference Held Under the Auspices of the American Neurological Association and the American Heart Association, Princeton, New Jersey; January 4-6; 1961. Conference Supported by a Grant from National Institute of Neurological Diseases and Blindness. Clark H. Millikan, Chairman; Robert G. Siekert and Jack P. Whisnant, Editors. Published for the American Neurological Association and the American Heart Association by Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1961. 247 pages, $5.75.

As is true of the two previous volumes concerning the conferences on cerebral vascular diseases, the present volume contains a synthesis of the most current thinking about all aspects of strokes. It is divided into roughly three sections, each section being devoted to the current thinking concerning the pathogenesis and treatment of incipient or impending strokes, progressing stroke, and completed stroke. In the present volume the various clinical types of stroke are more clearly defined. The place of arteriography and the diagnosis of stroke is again emphasized and its technique and complications fully discussed.

Anticoagulant therapy has now become an established method of treating incipient strokes as well as progressing strokes providing cerebral hemorrhage can reasonably be ruled out. Surgical therapy, i.e., endarterectomy has proved quite effective in the hands of a few vascular surgeons in large teaching centers, although it requires an extreme degree of cooperation between neurologists, radiologists, and neurosurgeons to be safe and effective procedure.

The book also contains a brief but up-to-date discussion of thrombolytic agents which is an exciting new concept in the treatment of thromboses, although to date it must remain entirely at an experimental level.

In summary, the book is recommended to all who are interested in the treatment of strokes since it contains all of the significant recent contributions and thinking in this field handily brought together in one volume.

Albert F. Peterman, M.D.

THE PHARMACOLOGIC PRINCIPLES OF MEDICAL PRACTICE—A Textbook on Pharmacology and Therapeutics for Medical Students, Physicians, and the Members of the Professions Allied to Medicine—5th Edition—John C. Krantz, Jr., Professor of Pharmacology, School of Medicine, University of Maryland; and C. Jelleff Carr, Chief, Pharmacology Unit, Psychopharmacology Service Center, National Institute of Mental Health. The Williams & Wilkins Company, Baltimore 2, Maryland, 1961. 1498 pages, $15.00.

The 5th edition of this popular textbook has been increased to 1,498 pages, 9 parts and 60 chapters. Such an increase in volume has been made necessary by the rapid advances in development of pharmacological agents even though the authors have shortened, or in some cases, deleted discussion of some of the older and now less used drugs. In view of the fact that the course in pharmacology is usually taught before students have any clinical experience, or indeed much training in pathology, the authors have used considerable space to lay the physiological and clinical background for therapy. One may wonder whether it is justifiable to discuss clinical and physiological principles in a textbook in pharmacology, in view of the fact that the teacher can do this from the lecture platform. The rising cost of books would certainly justify authors limiting themselves to the subject of the book. However, to the reader, such material is often of great help, and the authors have shown discrimination and skill in presenting this type of background. The extensive experience in teaching and research, and talent for an interesting and clear style of writing makes this book popular both for student and practitioner. The new neuro- and psychopharmacological agents have been discussed with critical insight into their actions and uses. An example of this is found in their section on the monoamine oxidase inhibitors, beginning on page 1,036. The historical interest of the authors is shown in the many photographs of pioneers in pharmacology.

Clinton H. Thienes, M.D.

* * *

STAPES SURGERY FOR OTOSCLEROSIS—Victor Goodhill, M.D., Clinical Professor of Surgery (Otology), School of Medicine, University of California, Los Angeles; Chairman, Department of Otolaryngology, Cedars of Lebanon Hospital, Los Angeles. Paul B. Hoeber, Inc., Medical Division of Harper & Brothers, 49 East 33rd Street, New York 16, N. Y., 1961. 212 pages, $11.50.

Since Rosen introduced his stapes mobilization operation, a procedure which was first proposed by Miot and others more than half a century ago, the changes in stapes surgery for otosclerosis have been so rapid, that new instruments and catalogues have become obsolete almost before they have been finalized. One wonders, then, how Dr. Goodhill had the courage to write a book on stapes surgery, knowing well that it might be passé before the ink became dry. Reading the book, then, after "wondering," one realizes why it came to pass, for it serves a very useful purpose. It has basic information that is quite stable, so it does not matter that the techniques it talks about today may not be the ones used tomorrow.

As the author has said, this is largely a personal document based on his experiences with approximately 3,000 patients, and is, therefore, biased by his own case material and techniques. The author has, however, listed the excellent contributions of many colleagues in his 126 bibliographic references.

The chapters on the pathology of stapes ankylosis and physiological considerations of the hearing loss produced are "meaty" and trimmed down; in fact, throughout the book, there is a notable absence of circumlocution—the author has a knack of getting to the point.

The chapter on differential diagnosis, labelled "Pseudo-Otosclerosis" is splendid. The author not only relates all the conditions simulating otosclerosis, but illustrates each situation with a case report, a diagram, and a pre and postoperative audiogram.

The chapter on surgical techniques is thorough. It demonstrates, with diagrams, the evolution of techniques: Indirect mobilization, anterior crurotomy, direct footplate approach, partial stapedectomy and total stapedectomy, with the various metal and plastic prostheses and grafting materials as vein, fat, connective tissue and perichondrium. Postoperative management is carefully detailed.

In the final chapter, the author gives illustrative case histories showing both good and bad results, including late complications. At first, it was disturbing to note that the hearing results were reported by "Nomograms" instead of conventional audiograms; however, a study of the section on nomographic interpretation made it easy to "convert," and revealed that the charts not only show the progress in hearing improvement at surgery, but the followup record as well.

This book "reads well" from cover to cover, and is highly recommended. Should someone other than an otologist desire information on stapes surgery, this is an ideal book. One does not have to "wade" into it to get the facts. It is excellent, too, for one training in this surgery, for it will furnish him with much factual information, and is a good reference book. For the "veteran," it is also good, for certainly he can learn something from the author in relation to his own experience.

Shirley H. Baron, M.D.

* * *

COMPARATIVE EPIDEMIOLOGY OF MENTAL DISORDERS—Edited by Paul H. Hoch, M.D., and Joseph Zubin, Ph.D., Grune & Stratton, 381 Park Avenue South, New York 16, N. Y., 1961. 290 pages, $6.75.

This book is a compilation of the proceedings of the 49th Annual Meeting of the American Psychopathological Association, held in New York City, February, 1959. It thus contains not the exhaustive study of a single theme, but rather a diversification of approaches, studies and analyses of data ranging from genetics and prenatal influences through field studies, hospital statistics and surveys of old age. Scandinavia, Britain, Germany, Canada and the United States are the source material of these papers. As might be expected some of the reading is stimulating and enjoyable. Some, at best, a tough piece of meat to digest if you are not sophisticated in statistics, biometrics, social and psychiatric field studies, etc. The reader in the latter category is again reminded of the complexity and difficulty in sociocultural epidemiologic study.

The significant theme apparent in most of the papers is the increasing recognition of the impact of sociocultural factors on etiology, incidence, treatment, prognosis and prevention of mental disorders. However, this is not a book to read from which to draw definite conclusions nor to help formulate definitive concepts. All the more significant, it is a book to read for the discovery and development of hypotheses and ideas which will lead to more definite studies and research. The main value of this book is in the questions which it raises and their implication for future research. The horizons viewed therein may lead current and future investigators to fruitful lands. Medical and psychiatric educators particularly have an interest in exploring this and similar books in order to stimulate and broaden the perspective of those they teach.

Thomas V. Hoyer, M.D.

THE NATURE OF ESSENTIAL HYPERTENSION—Sir George Pickering, M.D., F.R.C.P., F.R.S., Regius Professor of Medicine and Student of Christ Church, Oxford University. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1961. 151 pages, with 58 Illustrations, $4.00.

Two of the characteristics of modern man which dismay the social scientists are his propensity to conformity and his failure to fight the decay in the use of language as a tool of learning. Sir George Pickering would delight the social scientist, for not only has be taken a position with respect to essential hypertension which is contrary to the accepted stream of thought, but he defends that position ably and with a language which is clear, precise, and a delight to read.

Is essential hypertension a specific disease entity, quite different from the majority of the population whose arterial blood pressures are within the "normal" range and who do not develop hypertensive complications? Or is it a quantitative deviation in which those individuals at the extreme end of the distribution curve develop hypertensive complications differing in degree, but not in kind, from other members of the population? Pickering defends the latter thesis, widening the concept of disease to include quantitative variations from normal. The small monograph is essentially a restatement of his well-known position regarding essential hypertension, which has resulted in articles in rebuttal by Platt, Morris and others, as well as letters to the editor of *Lancet* over a period of several years.

Pickering believes that essential hypertension biologically speaking "represents that section of the population selected by the height of their arterial pressures, and excluding those with specific causes for raised pressures. Its subjects represent those in whom these factors operating on the population at large have acted particularly strongly. Because of the genetic component, the greater the frequency of high pressures in close relatives and the more severe their hypertension, the more probably will an individual develop essential hypertension. The average size of the genetic factor is expressed by a regression coefficient of a little over 0.2." This relatively small regression coefficient suggests that the rise in blood pressure with age which affects some members of the population is due more to environmental than to genetic factors. He has not completely proved the genetic resemblance as compared with the familial, although he admits in a section entitled "Some Reservations" that siblings share the same environment as well as the same genes. His comparison of arterial pressure with Galton's studies on stature is brilliant and convincing; however, the filial regression of Galton is not strictly comparable to Pickering's data because Pickering related the arterial pressure and siblings, whereas Galton used parent and child.

Despite the fact that the rate of rise of the arterial pressure with age was thought to be due to environmental factors probably operating through the mind, the monograph provides very little discussion of this important subject. In fact, on page 70 the author was unjust in his criticism of Thaler et al.'s paper in which he assumes that the differences that Thaler, et al. found between peptic ulcer and hypertension might have been due to the undesirable side effects of antihypertensive medication when, in fact, the hypertension was mild and therapy, minimal.

The book can be highly recommended as an extremely well-presented argument for the quantitative hypothesis of essential hypertension. As such it will stimulate new ideas and, as the author states, it is hoped "that the new concept may prove a better instrument of thought than the old."

Maurice Sokolow, M.D.

* * *

HEMODYNAMICS OF AORTIC AND MITRAL VALVE DISEASE — Transbronchial Studies — Alvin J. Gordon, M.D., Associate Attending Physician and Head of Cardiac Catheterization Team, The Mount Sinai Hospital, New York; Consultant for Cardiac Clinical Investigation, Beth-El Hospital, Brooklyn, New York; Paul A. Kirschner, M.D., Assistant Attending Surgeon, The Mount Sinai Hospital, New York; Associate in Surgery, Columbia University; Associate Visiting Surgeon, Chest Service, Bellevue Hospital, New York; Attending Thoracic Surgeon, Veterans Administration Hospital, Bronx, New York; and Howard L. Moscovitz, M.D., Assistant Attending Physician, The Mount Sinai Hospital, New York. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1961. 136 pages, $5.75.

This monograph by an experienced team from the Mount Sinai Hospital in New York relates the authors' experience with transbronchial left heart catheterization in 93 cases of aortic and mitral valvular disease. The authors have not used direct left ventricular puncture or the Ross transseptal needle and therefore are not able to compare the various techniques. There is a chapter on technique and one on complications, followed by a systemic analysis of mitral stenosis, mitral insufficiency, aortic stenosis and aortic insufficiency. The authors discuss in turn the general features, pathophysiology, phonocardiography, analysis of hemodynamics and clinical correlation of the basic data with the clinical findings. The text is sound and is well illustrated with 94 figures, and the material is documented with 111 pertinent references.

The authors have no new or dramatic concepts to present and, in general, the results of their studies are those prevailing in the literature. A few differences exist. For example, the authors find the formulae of the rate of the *Y* descent with respect to the mean left atrial pressure helpful in differentiating mitral stenosis from mitral insufficiency; but their figures illustrate the overlap that occurs in doubtful cases. They state it is common to find a raised left ventricular diastolic pressure in mitral insufficiency, but this has not been the experience of others unless the mitral insufficiency is produced acutely. The authors state that a diastolic gradient across the mitral valve was not found in patients with mitral insufficiency. This is contrary to the usual experience when a diastolic gradient results from slight mitral stenosis, even though the dominant lesion is mitral insufficiency.

The monograph can be highly recommended as a sound review of an important subject which attempts to correlate the hemodynamic and clinical bedside observations. This emphasis combined with the many illustrations will make the book of considerable interest to the practicing physician who wishes to understand the physiological aspects of valvular disease in the light of modern studies.

Maurice Sokolow, M.D.

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Research in the Service of Medicine

Contact Lenses Require Medical Service

All wearers of contact lenses require medical service, Dr. Charles E. Jaeckle, Defiance, Ohio, said today in the March 3 *Journal of the American Medical Association.*

"The increased medical care required over the years by persons who use contact lenses has not been adequately publicized," he said.

Medical care must continue as long as contact lenses are used, he said. Because of the nature of the lenses, he said, continuing, periodic evaluation of the effect of the lens on the eye is essential to their use.

The contact lens is a nonsterile, foreign body, which is placed in contact with the easily damaged, transparent cells of the cornea, Dr. Jaeckle explained. The normal respiratory exchange of the corneal tissue takes place directly with the atmosphere, i.e., oxygen is taken from the air and carbon dioxide is discharged into the air, he said.

Placing a contact lens on the cornea always interferes with this normal process, he said. It also disturbs other physiological factors, such as heat loss and the chemical composition of the fluid film over the cornea, he said.

The lens is not merely an optical correction, but an artificial part which substitutes for the cornea, he said, adding:

"It treats not light, but the eye. It modifies tissue and alters the anatomy and physiology."

The decision whether to apply this foreign body to the eye, the diagnosis and management of pathological and physiological changes, and the prescribing of modification of the lens based on such changes are "manifestly the responsibility of the medical doctor, not of allied health personnel," Dr. Jaeckle said.

Because contact lenses reduce the sensitivity of the cornea, they also deprive the wearer of the warning symptom of pain, the ophthalmologist pointed out. If the wearer is not under a physician's observation, injury may not be recognized, he said.

Contact lenses offer advantages to only a small number of persons, he said. They are being used by many persons whose visual needs would be "well met" by spectacles, he said.

SUBARACHNOID ALCOHOL BLOCK IN THE CONTROL OF INTRACTABLE PAIN—R. C. Hay. Anesth. Analg.—Vol. 41:12 (Jan.-Feb.) 1962.

The results of subarachnoid alcohol block in 252 patients with malignancy are reported. The procedure has proved to be very useful in alleviating segmental pain. Pain relief was obtained in 78 per cent of the patients, with complications in 2 per cent. The technique is the standard subarachnoid puncture and injection of absolute alcohol in small increments up to 1 cc. per interspace. The injections are confined to the cervicodorsal area only.

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(Continued from Page 30)

are now being made with a recording infrared scanning device. These temperature differences may prove useful in diagnosing the nature of breast lumps.

* * *

A REEVALUATION OF BRONCHIECTASIS USING FUME FIXATION —W. Hentel, A. N. Longfield, and J. Gordon. Dis. Chest. —Vol. 41:41 (Jan.) 1962.

Introduction of fume fixation-inflation of lung specimens has brought renewed interest in the study of bronchiectasis. The 3-dimensional studies provide further insight into hitherto unseen facets of pulmonary histopathology. The authors' observations indicate two separate forms of bronchiectasis, which are distinguishable in the gross as well as in the 3-dimensional studies of the histologic sections.

* * *

VARIATIONS IN CATALASE ACTIVITY IN HUMAN LEUKOCYTES —C. Kidson. Blood—Vol. 19:82 (Jan.) 1962.

Catalase activity was studied in normal leukocytes and in leukocytes from patients with leukemia and infections. Higher levels of activity were observed in normal granulocytes than in lymphocytes. Normal lymphocyte levels were present in acute and chronic lymphatic leukemia. Low levels were present in infection, and very high levels in acute and chronic myeloid leukemia. Changes are discussed in relation to leukocyte age.

* * *

EFFECT OF THIOPENTAL INDUCTION ON CARDIAC OUTPUT IN MAN—H. Flickinger, W. Fraimow, R. T. Cathcart, and T. F. Nealon. Anesth. Analg.—Vol. 40:693 (Nov.-Dec.) 1961.

Cardiac output was measured in 12 patients before and after the induction of anesthesia with thiopental. A significant decrease in cardiac output was observed in 83 per cent of the patients studied. The mechanisms of this diminution are discussed. The clinical significance of these changes when compounded by other factors attendant upon surgery is emphasized.

* * *

CLINICAL TRIAL OF PRENYLAMINE LACTATE, A LONG-LASTING CORONARY DILATOR DRUG—D. F. Kerridge, S. J. Mazurkie, and D. Verel. Canad. Med. Ass. J.—Vol. 85:1352 (Dec. 16) 1961.

In a double-blind trial, prenylamine lactate was found to reduce the intake of trinitrin tablets in patients with angina pectoris to a significantly greater extent than an identical placebo. The results of a simple exercise test were equivocal in that all subjects exercised less well while taking both the control tablet and the placebo. This anomalous result was probably due to a decrease in interest in the exercise test on the part of the subject. Prenylamine lactate is an effective long-lasting coronary vasodilator drug.

* * *

TESTING SKIN SURFACE FOR GLUCOSE—A. M. Parker. Diabetes—Vol. 11:49 (Jan.-Feb.) 1962.

Skin surface glucose determinations with clinistix were made on 27 diabetic and 21 nondiabetic subjects. In 48 subjects test correlation with urine and blood findings were found in 56.2 per cent. In diabetics with glyocosuria and hyperglycemia the skin surface correlated in 33.3 per cent, and in diabetics and nondiabetics with normal blood and urine correlation was 25.7 per cent. A positive skin surface glucose test in three normals suggested a prediabetic state in two who had abnormal cortisone-glucose tolerance tests.

(Continued on Page 57)

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Raddin, J.: Med. Times, July 1961

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Hootnick, H. J.: J. Am. Ger. Soc., 4:1021-1030, 1956

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Marshall, W.: S. D. J. Med. & Pharm., 8:151-153, 1955

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Oil-Mixed Flu Vaccine Proves Effective

A killed-virus, oil-mixed vaccine has proved to be 90 per cent effective against two types of respiratory disease, a report in the February 24 *Journal of the American Medical Association* said.

The vaccine, consisting of eight inactivated virus strains suspended in an oil emulsion rather than the usual water solution, was studied in a field trial involving more than 5,000 men stationed at Lowry Air Force Base, Denver, during the winter of 1959-60.

The vaccine was "remarkably effective" against influenza Type A_2 and adenovirus Type 7, which produces flu-like symptoms, Dr. Gordon Meiklejohn, department of medicine, University of Colorado School of Medicine, Denver, said.

Outbreaks of these two viral infections occurred about two months after the vaccine had been administered to half of the men, he said. Ninety-four per cent of the vaccinees were protected against the flu, he said, and 90 per cent were protected against adenovirus infection.

Thirty-five men in the unvaccinated group had the flu, compared with two in the vaccinated group, he said. Forty of the unvaccinated men contracted adenovirus infections, compared with four of the vaccinees, he said.

The findings indicate that oil-mixed vaccines protect "at least as well as" water-mixed vaccines and, because of other advantages, may be preferable to water-mixed vaccines for the prevention of respiratory disease, Dr. Meiklejohn said.

The advantages of the oil-mixed vaccines are that they do not require as much killed virus; they may provide longer protection; immediate reactions may be less frequent and severe, and numerous viruses can readily be injected in a small volume.

Oil-mixed vaccines have been under study in man since 1945 in an effort to increase the effectiveness of inactivated vaccines. Adjuvants, such as oil, commonly act by reducing solubility or availability of the virus, thus establishing a deposit which is released slowly.

Cysts at the injection site, which were troublesome in earlier studies, were not observed in this field trial, Dr. Meikeljohn said.

Possible later-occurring side effects "unquestionably deserve further study," an accompanying editorial said.

However, the editorial said, the effectiveness of such vaccines should be continued to be explored "since they may provide the simplest approach to the control of a very large number of infectious diseases."

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General Practice Review	One Week, May 21
Advanced Electrocardiography	One Week, June 18
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Fractures & Traumatic Surgery	Two Weeks, June 11
Diagnostic Radiology	Two Weeks, April 23

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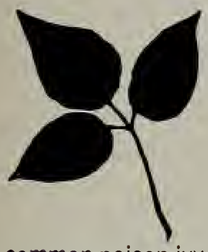
New Light Shed on Nerve Activity

A revised concept of the way in which nerve impulses are transmitted throughout the body has emerged after 25 years of biochemical research, Dr. David Nachmansohn, Columbia University College of Physicians and Surgeons, New York City, said today.

Writing in the February 24 *Journal of the American Medical Association,* Dr. Nachmansohn said this increased knowledge of nerve activity has led to the development of an effective antidote against insecticides and nerve gases. It also has explained the mode of action of local anesthetics and other drugs which act on the nervous system and may lead to the development of more effective agents, he said.

Research now supports the conclusion that an enzyme reaction involving the chemical compound known as acetylcholine (ACh) has an essential

(Continued on Page 54)



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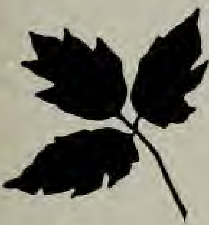

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TABLETS
PARENTERAL

Poison ivy and poison oak are months away. But just as surely as spring follows winter, you'll be seeing those itchy, oozing, tormented sufferers of Rhus dermatoses later this year. But now you can do something to prevent this. You can begin hyposensitizing your hyperallergic patients with Aqua Ivy.

Aqua Ivy—the proven hyposensitizing extract

Extensive clinical testing has shown Aqua Ivy Parenteral to be a safe and effective protective agent. For example, Passenger, Spain and Strauss carried out prophylactic studies in 121 cases—including adults and children—with 93% excellent or good results.[1] In two earlier studies, Gaillard also obtained good immunization with parenteral Aqua Ivy in a total of 388 patients.[2,3]

Similarly, the oral form—Aqua Ivy Tablets—has been shown to be "...a safe and effective means of oral prophylaxis against poison ivy dermatitis."[4] The authors state, "This conclusion appears warranted on the basis of the double-blind, controlled study which gave statistically significant results, as well as the clinical study in which 88 per cent of men with a past history of poison ivy dermatitis, under conditions of heavy exposure, had no dermatitis at all."[4]

Advantages of Aqua Ivy ap

Alum-precipitated Aqua Ivy is proven effective, proven non-sensitizing—even to the skin. Side effects are minimal. And, although subcutaneous injection of the aqueous solution is essentially painless, the oral form—Aqua Ivy Tablets—offers an even more convenient alternative method of prophylaxis.

When should treatment begin?

The full course of Aqua Ivy immunization takes 10 weeks with the parenteral form. For full protection by summer, start Aqua Ivy prophylaxis this month. Aqua Ivy is indicated for your hyperallergic patients and those most likely to be exposed to poison ivy or oak.

Dosage and administration: PARENTERAL—see package insert. TABLETS—Aqua Ivy Tablets, 1.2 mg., are for the prophylactic treatment of poison ivy or poison oak dermatoses. The following dosage schedule is recommended for adults and children (children under 6 years of age should receive close medical supervision).

1st and 2nd weeks: ½ tablet daily
3rd and 4th weeks: 1 tablet daily
5th week on until 100 tablets have been taken: 1½ tablets daily

Precaution: Aqua Ivy Tablets should not be administered in the presence of active poison ivy or poison oak dermatitis. Should the patient, while taking the tablets, contract poison ivy or oak dermatitis, the medication should be stopped until the rash heals. When clear, the tablets may be resumed according to prescribed dosage.

Supplied: Aqua Ivy for subcutaneous administration—
For prophylaxis: in 10 cc. vials of 1:5 dilution (3.0 mg./cc.).
For therapeutics: in 5 cc. vials of 1:50 dilution (0.3 mg./cc.).
Aqua Ivy Tablets are available in bottles of 50 and 100 tablets, 1.2 mg. each.

References: 1. Passenger, R. E.; Spain, W. C., and Strauss, M. B.: J. Allergy 27:408 (Sept.) 1956. 2. Gaillard, G. E.: J. Allergy 21:55 (Jan.) 1950. 3. Gaillard, G. E.: New York J. Med. 56:2255 (July 15) 1956. 4. Langs, R. J., and Strauss, M. B.: J. Allergy 30:130-139 (Mar.-Apr.) 1959.

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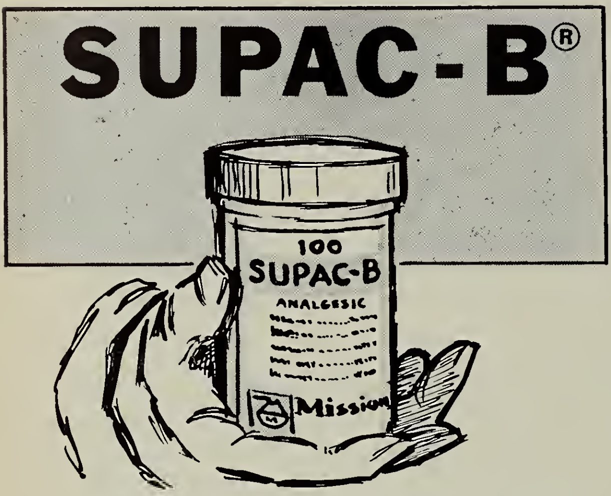

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. . . . is an effective analgesic compound that provides the *non-narcotic* action of n-acetyl-p-aminophenol, the effectiveness of aspirin, the mild stimulation of caffeine and the dual buffering action of calcium gluconate and aluminum hydroxide to minimize gastric irritation.

Relief of pain is usually accomplished within 30 minutes without danger of narcotic addiction.

SUPPLIED: Bottles of 36 and 100.

EACH TABLET CONTAINS:

N-Acetyl-p-Aminophenol	160 mg
Aspirin	230 mg
Caffeine	33 mg
Aluminum Hydroxide (dried gel)	33 mg
Calcium Gluconate	60 mg

DOSAGE:
Adults: one or two tablets. May be repeated in 3 or 4 hours. Do not exceed 4 tablets at a single dose or 16 tablets in a 24 hour period.
Children: 6 to 12 years of age, 1/2 the adult dose. 3 to 6 years of age, 1/5 the adult dose.

WARNING:
Do not give to children under 3 years of age or use for more than 10 days, unless directed by a physician.

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AMA to Publish Handbook Of Medical Terminology

The American Medical Association will publish in June the first edition of a paperback, pocket-size guide to the preferred medical terms of all important diseases, it was announced today.

The handbook represents the first step in developing a system of correct medical terminology so that physicians from all parts of the world can understand each other, Dr. Burgess L. Gordon, AMA's director of nomenclature, said.

It will provide a definition of each disease indicating the known or possible causes and the most characteristic disturbances and findings, and through frequent revision will serve as a focal point of expanding medical knowledge, he said.

It will be kept as nearly up to date as possible. Revised editions are anticipated every 12 or 18 months.

No similar medical publication of handbook size is available for medical students, hospital staff, practicing physicians or medical record librarians.

Entitled "Current Medical Terminology," the handbook will improve communication and understanding within the profession by promoting the use of correct terminology. It also should be invaluable in the coding and filing of medical information which is essential to further research and advances in medicine.

The rapid pace of medical developments in the post-World War II years placed a heavy burden on old methods of compiling and disseminating up-to-date terminology, Dr. Gordon said.

New or modified concepts emerged "even before the printer's type turned from hot to cold," he said.

Standard Nomenclature of Diseases and Operations (SNDO), the official listing of diseases published every 10 years since 1928, became "excessively large and complicated," he said.

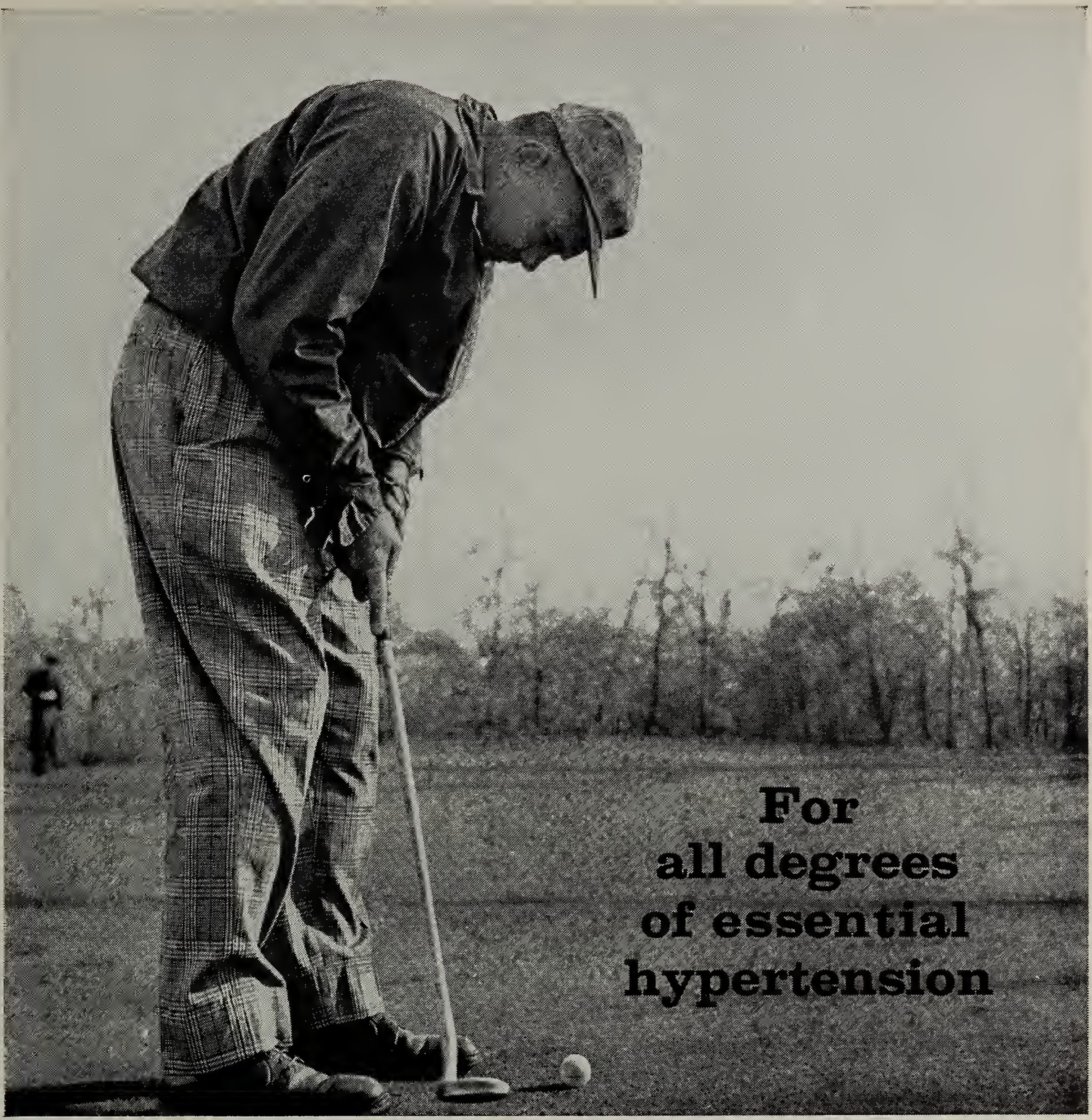
The 1961 SNDO carries 18,000 names in a hardcover book of 964 pages. The same condition is sometimes referred to under several different names, causing confusion.

This situation led to a decision in April, 1960, for the AMA to publish a handbook of all important diseases and conditions listed in SNDO, the International Classification of Diseases, medical dictionaries, and standard books of medicine and the specialties to standardize terminology and facilitate the professional and administrative pursuits of modern medicine.

The first issue of Current Medical Terminology, eliminating duplication and outdated terms, will contain less than 500 pages and sell for $2, the cost of publication.

It will list alphabetically 4,000 diseases and conditions, including psychological and neurological disorders, and give definitions based on what is generally considered established data. The definitions will give a brief, overall picture of the disease, in-

(Continued on Page 63)



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†Hutchison J. C.: Current Therap. Res. *2*:487 (Oct.) 1960.

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New Light Shed on Nerve Activity

(Continued from Page 42)

function in generating the electric currents which send nerve impulses from one part of the body to another, the New York physician said. This ACh system controls the movements of ions, carrying the currents, by changing the nerve fiber's ability to conduct these currents, he said.

Previously it had been thought that ACh had an important but limited function in nerve activity, he said.

It was generally believed that nerve impulses traveled by a sort of chain reaction, with one nerve cell triggering the next cell and so on, he said. ACh was thought to function only at nerve endings to enable the impulse to jump the gap between the nerve endings of one cell and those of another, he said.

However, Dr. Nachmansohn said, studies revealed that ACh functioned within the nerve fibers which carry the impulses from the nerve cells. Three proteins also were found to be associated with ACh, he said.

The ACh complex is inactive until the nerve is stimulated, he explained. When the stimulus takes place, he said, a chemical reaction occurs between ACh and its proteins which changes the conductance of the nerve fiber and allows the rapid flow of the impulse.

One protein (the enzyme ACh-esterase) breaks up ACh into acetate and choline, he explained. Acetate then reacts with another protein and produces a change in the protein which removes the barrier to the transmission of the impulse, he said. The third protein (the enzyme choline acetylase) then acts to reform ACh, he said.

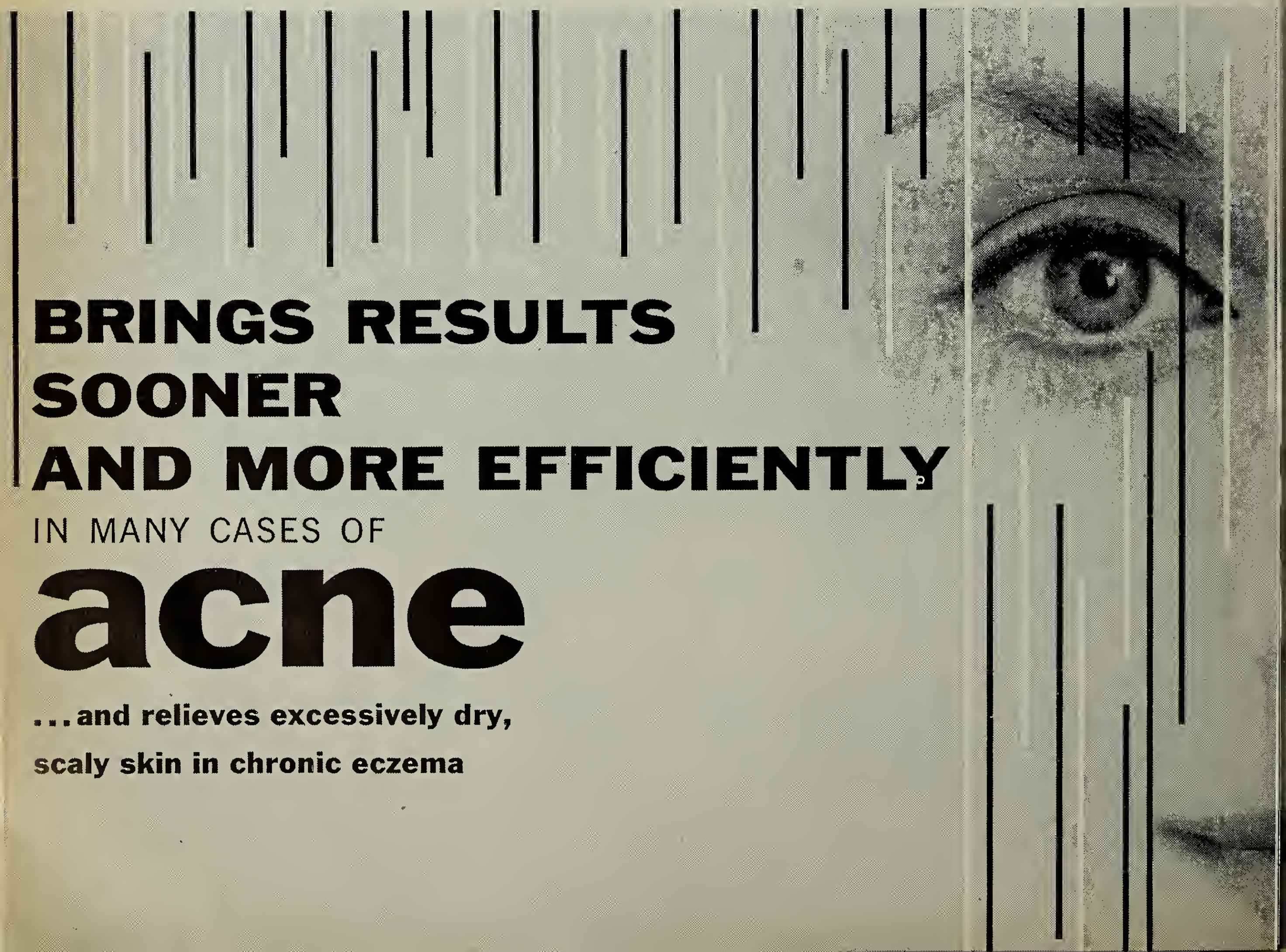
"The enzyme reaction takes place in a few millionths of a second," he said. "This high speed makes it possible for a thousand impulses or more to pass through nerve fibers per second."

A.M.A. Film Reviews Reach 1,000

The American Medical Association's 16-year program of disseminating information on new medical motion pictures has reached a coveted milestone with the publication of the 1,000th film review in the *Journal of the American Medical Association.*

Medical film reviews, which have been especially valuable to medical educators and program chairmen in planning for state medical society meetings and hospital staff conferences, have been appearing regularly in the *Journal* since February, 1946. They are widely read both in this country and abroad.

The A.M.A. maintains a film library of 1,253 prints of 268 different subjects. The library is constantly enlarged as new films are produced. In 1961 the film library booked a total of 10,025 showings of medical motion pictures, an increase of almost 14 per cent over the previous year.



BRINGS RESULTS SOONER AND MORE EFFICIENTLY
IN MANY CASES OF
acne
...and relieves excessively dry, scaly skin in chronic eczema

For the past six years the British Medical Association has reprinted the A.M.A.'s motion picture reviews in its publication, "Medical and Biological Illustration." Each review contains technical data on the film, details about its availability, name of producer or author, and a description and evaluation of content. Each film is screened by a committee of physicians who are specialists in the subject being presented.

The film program is supervised by Ralph Creer. Mr. Creer is a former director of the Medical Illustration Department of Yale University School of Medicine. He served as a major in the U. S. Army Medical Administration Corps in World War II, organizing and directing the Army's medical illustration program. He also has arranged and coordinated international medical film exhibitions in many foreign countries.

Organ Music Triggers Epileptic Attack

A case of musicogenic epilepsy, a very rare form of the disease in which music causes seizures, was described in the February 17 *Journal of the American Medical Association.*

The patient was a 62-year-old woman whose seizures were precipitated primarily by organ music but sometimes by "hillbilly" music, according to David Green, M.D., B.S., New York City, and Robert J. Joynt, M.D., and Renee Green, B.A., Iowa City, Iowa.

She was treated successfully at University Hospitals, Iowa City, with anticonvulsant drugs and by avoiding the music, they said.

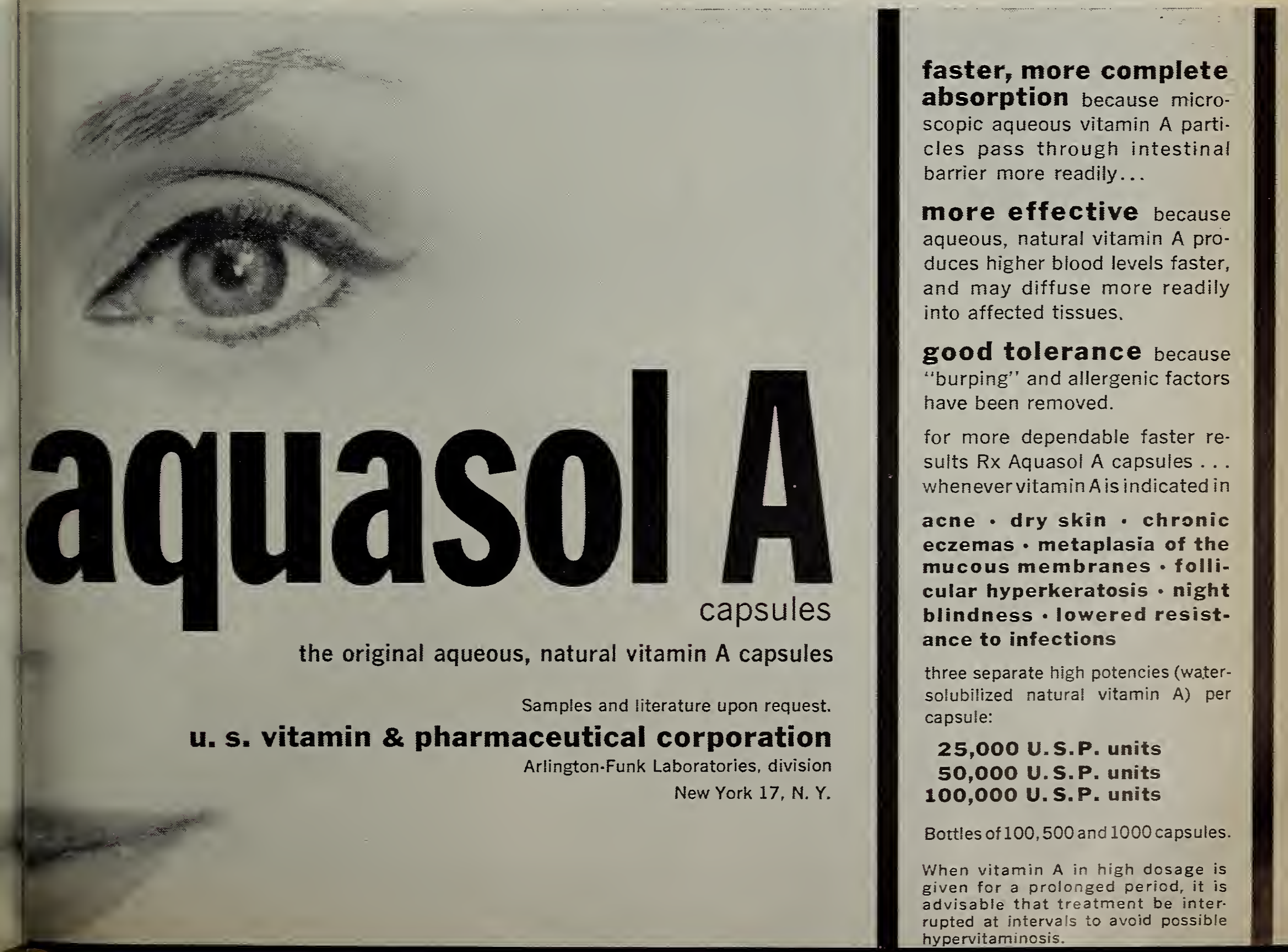
There have been only about 44 cases of musicogenic epilepsy reported in medical history, the authors said. Among these instrumental music was found to be the cause of seizures more often than vocal music, they said. In the majority of patients the attacks began during their adult years, they said.

In general the outlook for recovery is good, they said, adding:

"Probably the most effective therapy is avoidance of the specific musical stimulus which triggers the attack."

FURTHER EXPERIENCE WITH PANCREATITIS AS A DIAGNOSTIC CLUE TO HYPERPARATHYROIDISM—C. G. Mixter, Jr., W. M. Keynes, and O. Cope. New Engl. J. Med.—Vol. 266:265 (Feb. 8) 1962.

A review of 11 cases encountered in a Massachusetts hospital and 47 cases in the literature, in which the coexistence of hyperparathyroidism and pancreatitis has been proved, appears to establish an etiological relationship between the two diseases. Thus pancreatitis may serve as a diagnostic signpost to the overactivity of the parathyroid glands. Correction of the hyperparathyroid state may be expected to ameliorate the pancreatitis. Also, pancreatitis should be anticipated as a possible and lethal complication of hyperparathyroidism. The problems of diagnosis are discussed.



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When vitamin A in high dosage is given for a prolonged period, it is advisable that treatment be interrupted at intervals to avoid possible hypervitaminosis.

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Hit by train at a grade crossing, the driver of this car owes his life to a safety belt.

(Official Photo, California Highway Patrol)

INSTALL and USE Seat Belts in Your Automobile

All C.M.A. members are urged to promote safety in driving by INSTALLING and USING seat belts in their autos, as recommended by the Committee on Traffic Safety.

For your convenience, the Committee on Traffic Safety has arranged with Tulareloft Manufacturing Company for a direct purchase of their #300 Seat Belt. This belt is manufactured in California, and meets the specifications of the California Highway Patrol for use in patrol autos.

The belt is made of heavy nylon webbing, capable of withstanding 6,000 pounds pressure per square inch. The buckle is the metal-to-metal type with an easy-connect and quick-release feature.

Installation instructions should be carefully followed!!!

The price is $5.95 for standard belts, covers tax and shipping cost. Cadillacs require longer belts—30 cents extra; Sportscar-type anchors—50 cents extra.

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Red . . . . . ___
White . . . . ___

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REFERENCES AND REVIEWS

(Continued from Page 41)

Antistaphylococcal Activity of Penicillin P-12—A. C. White and J. W. Smith. Amer. J. Med. Sci.—Vol. 243:202 (Feb.) 1962.

A new penicillin, 5-methyl-3-phenyl-4-isoxazolyl penicillin, was a more active bacteriostatic and bacterial agent against penicillinase-producing staphylococci than penicillin G, phenethicillin or methicillin. It was less active than penicillin G but more active than methicillin against staphylococci which did not produce penicillinase. Oral treatment was effective in persons who were nasal carriers and in staphylococcic infections caused by penicillinase-production staphylococci.

* * *

Review of Clinical Findings and Vaccination Status in 98 Victims of Paralytic Poliomyelitis—M. Ishii and B. J. Sproule. Canad. Med. Ass. J.—Vol. 86:309 (Feb. 17) 1962.

The clinical findings and vaccination status of 98 victims of paralytic poliomyelitis admitted to a university hospital are reviewed. There was a high proportion of severe disease in older patients, but vaccinated patients tended to have less severe involvement. However, 42 of the 98 patients had received three or more injections of Salk vaccine.

* * *

Physical Factors in Sun Exposures—F. Daniels, Jr. Arch. Derm.—Vol. 85:358 (March) 1962.

A number of atmospheric factors in transmission of wavelengths of ultraviolet causing sunburn and skin cancer are reviewed. Of practical clinical concern is the fact that scattering and absorption in the atmosphere make the risk of sunburn dependent upon the angle which the sunlight traverses in the atmosphere. Maximum risk of sunburn and other harmful effects is found at two to three hours before and following solar noon. Patients with poor solar tolerance will be able to spend time outdoors if they avoid these critical hours.

* * *

Lichen Sclerosus et Atrophicus of the Female Genitalia—L. P. Barker and P. Gross. Arch. Derm.—Vol. 85:362 (March) 1962.

This study of lichen sclerosus et atrophicus of the female genitalia represents a summary of 55 cases recently observed. The findings emphasize that the disease is often erroneously diagnosed as kraurosis vulvae, leukoplacia and other precanceroses, with the result that women are often subjected to premature vulvectomies. Criteria for clinical and histopathologic diagnosis are presented. A conservative method of treatment is outlined.

* * *

Amidoblack as Stain for Hemoglobin—H. Puchtler and F. Sweat. Arch. Path.—Vol. 73:245 (March) 1962.

Sections fixed or mordanted in Zenker formol were treated consecutively with 5 per cent tannic acid, 1 per cent phosphomolybdic acid, and a saturated solution of amidoblack 10B in methanol glacial acetic acid. Only hemoglobin and methemoglobin were colored dark blue, all other tissue structures were yellow. Model experiments with various proteins indicate that only hemoglobin and methemoglobin bind amidoblack. This method does not require differentiation. No fading was observed in sections stored for over 18 months.

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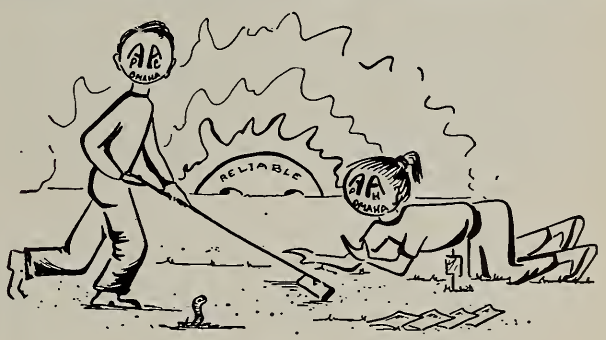

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The C.M.A. offers free placement assistance through the Physician Placement Service, 693 Sutter Street, San Francisco 2, California. This service is for the use of all physicians seeking practice opportunities in California and for C.M.A. members who are seeking an assistant or associate. A monthly bulletin is published.

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The physician can measure the basal metabolic rate by means of oxygen consumption. But he has no instrument—no objective test—for measuring comfort.

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Each tablet contains Alphadrol (fluprednisolone) 0.75 mg. or 1.5 mg.
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Upjohn

Plea Made for Active Tetanus Immunization

Routine active immunization against tetanus was recommended for all persons in an article in the March 10 *Journal of the American Medical Association.*

Tetanus, also called lockjaw, is an infectious disease, often fatal, which is caused by a germ which invades the body primarily through wounds. The germ produces a poison, or toxin, which causes muscle spasms, particularly those of the neck and lower jaw.

Active immunization consists of a series of injections of a toxoid containing modified toxin which stimulates the body's production of antibodies to counteract the toxin. Lacking this immunization, the disease may be prevented by injecting an antitoxin derived from equine blood serum which contains the antibodies themselves (passive immunization) as soon as possible after an injury occurs.

Reactions to active immunization are rare, but reactions to passive immunization are much more frequent and can be severe, Dr. H. William Bardenwerper, Milwaukee, Wis., warned in the Journal.

Sickness results in an estimated 15 to 30 per cent of the persons receiving the more than two million doses of antitoxin administered yearly, he said. Death is reported to occur in 1 out of every 100,000 persons given the antitoxin, he said.

The sickness, termed serum neuritis, usually causes intense pain involving the muscles and paralysis of varying degree, he said. Recovery can require anywhere from six months to two years and permanent muscular weakness results in about 20 per cent, he said.

Another disadvantage of the antitoxin is its reduced efficiency on succeeding administrations, he said.

Most communities now have established programs for the active immunization of infants and school children against tetanus, the author said. However, he said, there is no program for providing subsequent booster injections for these children or for immunized veterans of World War II and the

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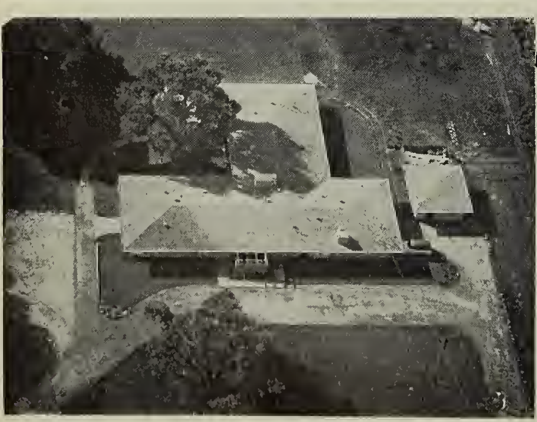

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Korean conflict and no program has been provided for older children and adults.

The efficiency and safety of active immunization "urgently recommend" a concentrated campaign to protect all persons from tetanus in this way, he said.

Mass disasters requiring mass protection against tetanus "must be considered as an increasing possibility," he added.

AMA to Publish Handbook Of Medical Terminology

(Continued from Page 52)

cluding the causes, symptoms, laboratory findings, pathology, and complications.

The terms were selected on the basis of general acceptance or usage for at least three years.

The enormous project was expedited with the aid of a computer. Once the book was developed, data was fed into the IBM machine which assembled and alphabetized the material, finally turning out copy ready for the printer.

The computer also will make it possible to keep a "running check" on the accuracy of the terminology, according to Dr. Gordon.

With the help of medical schools, practicing physicians and several large urban hospitals, he said, it is hoped that a cross-section evaluation of patient records can be developed to establish the frequency of the different manifestations of disease. When fed this information on punch cards, the computer can quickly and accurately determine how often the various elements of a disease occur and in this way show whether the definition in the handbook is accurate or needs revision, he said.

Current Medical Terminology is not regarded as a replacement for SNDO, he added, but rather a companion to the larger book.

ELECTROCAUTERY IN TONSIL AND ADENOID SURGERY—F. Johnson, Arch. Otolaryng.—Vol. 75:127 (Feb.) 1962.

With the advent of Fluothane as a general nonexplosive anesthetic agent, electrocautery is now feasible in tonsil and adenoid surgery. This article explains the technique for this procedure developed over the past two years and illustrates equipment. Indications and contraindications are discussed.

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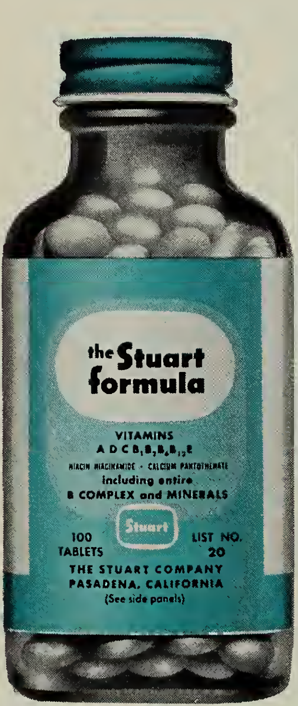
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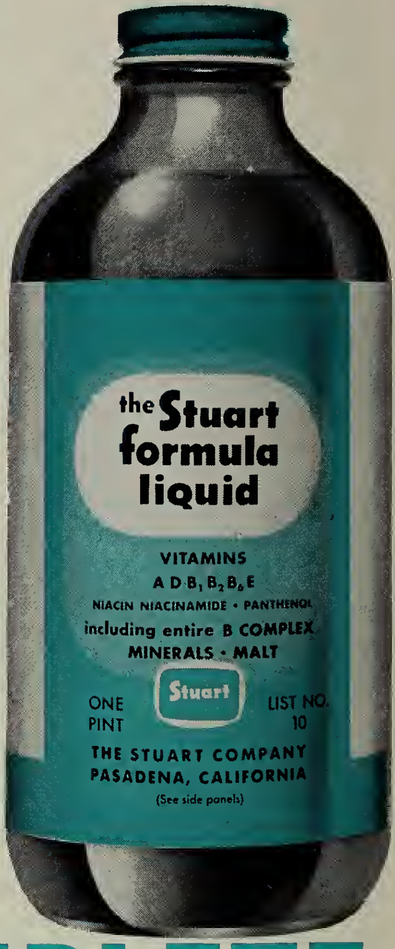
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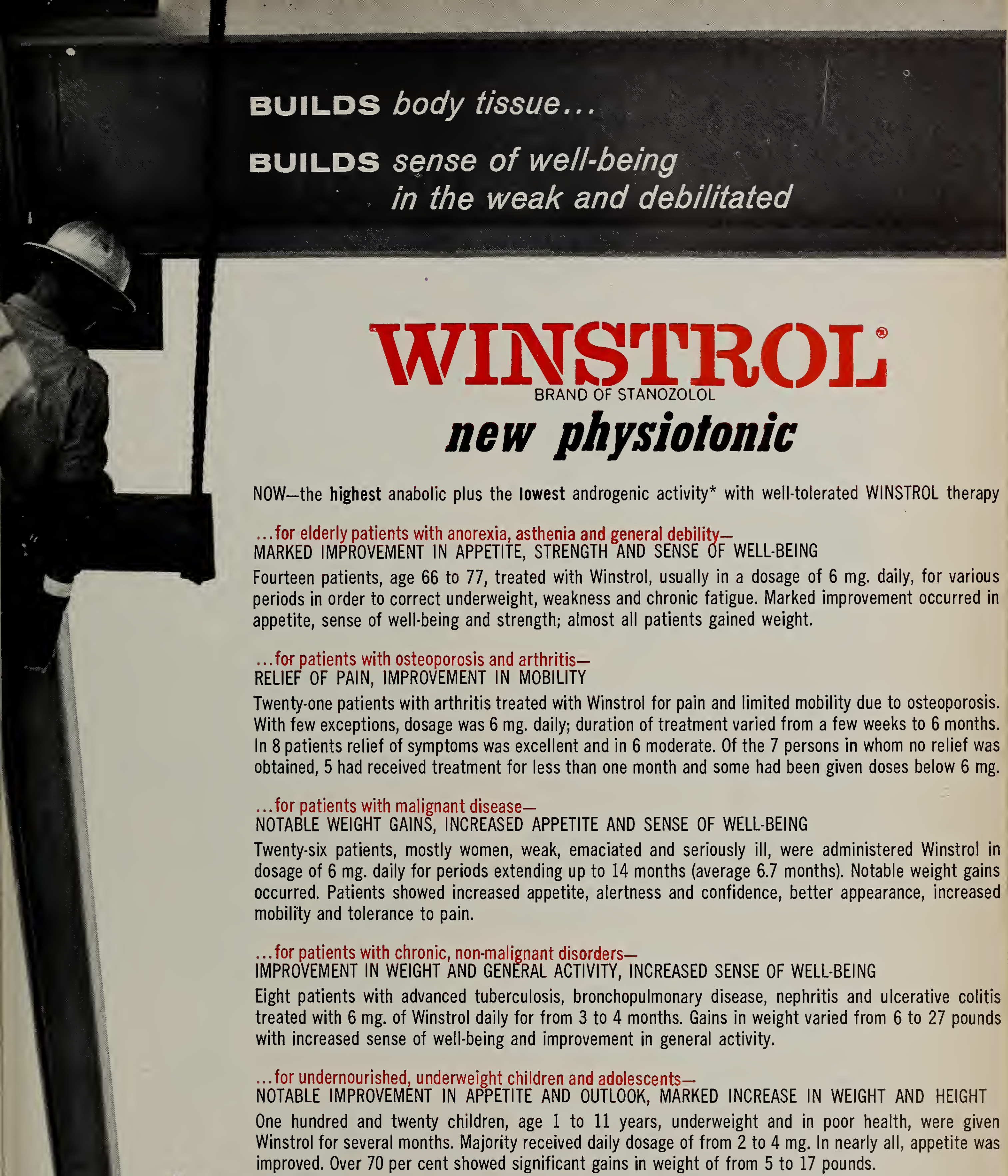

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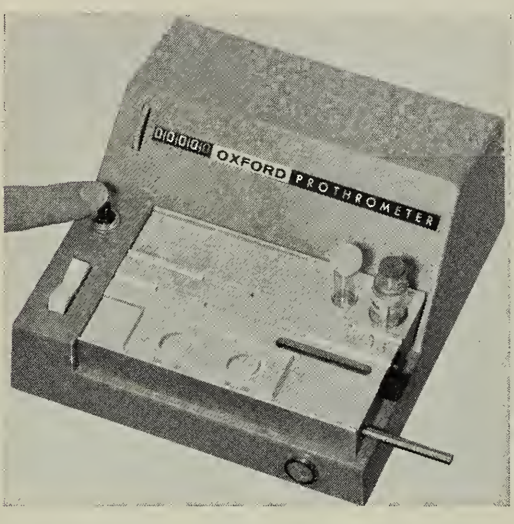

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Coincidental with the publication of the March issue of CMA's *Newsletter* which headlined "It Is Up to You" if the King-Anderson social security approach to medical care for the aged is to be defeated, the California Volunteers for the American Medical Political Action Committee issued letters to all CMA members and auxiliary members requesting funds to carry out the campaign.

The March 26 letter from Dr. Malcolm C. Todd, chairman, declared that, "First we need a nationwide campaign of opposition. To do this we need funds—money—to help in the election of Congressmen who, like Dwight D. Eisenhower, believe that 'every step we take toward making the State the caretaker of our lives, by that much we move toward making the State our master'."

Subscription cards, pamphlets and other AMPAC materials are available at the California Volunteers office, Suite 621-A, 2975 Wilshire Boulevard, Los Angeles.

Included on Dr. Todd's statewide committee are Drs. Allan K. Briney, Ralph C. Teall, John E. Vaughan, Eugene M. Webb, Francis E. West and county legislative chairmen from the 40 societies. Mrs. Robert J. Douds is the auxiliary representative.

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Eye Exam Detects Mild Measles

A simple eye examination can detect a mild case of measles in which obvious symptoms are missing, Drs. Alfred L. Florman and Howard J. Agatston, Manhasset, L.I., N.Y., said recently.

Since mild measles provide immunity against the disease, the ability to diagnose such cases means that unnecessary preventive measures could be avoided.

A child given gamma globulin for protection against his first exposure to measles, for example, may not develop the fever, rash, spots or cough typical of measles and, therefore, be given more gamma globulin on later exposure. However, further gamma globulin injections could be eliminated if the eye exam confirmed that he suffered a mild case of measlees.

Writing in the February 17 *Journal of the American Medical Association,* Drs. Florman and Agatston said they had found that in both the mild and regular measles a slight inflammation of the cornea of the eyes and lining of the eyelids was present for a number of weeks.

Eye inflammation of this type can only be determined by an ophthalmologist with a microscopic device, the authors said. However, such eye exams are readily available since ophthalmologists in most communities have been using this technique routinely for many years, they said.

Previously the only way to determine immunity in persons who did not develop apparent symptoms was by an expensive and time-consuming blood analysis performed in a virology laboratory and such laboratories are not readily available to all communities, they said.

The eye symptoms, which were found to occur in the early stage of the disease, also could lead to prompt treatment when spotted by the ophthalmologist, the authors said.

In a study involving 34 children, they said, eye inflammation was found as early as 10 days before the more obvious signs of the disease and as late as 117 days afterward. The degree of inflammation did not correspond with the severity of the measles.

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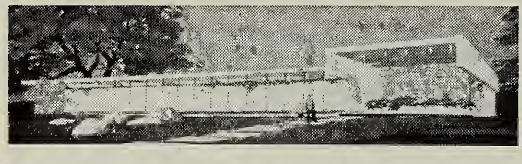

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1. Cohen, B. M.: M. Times 88:855 (July) 1960. 2. Cohen, B. M.: Méd. et Hyg. (Genève) #494, p. 210 (Mar. 15) 1961.

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*Ayd, Frank J., Jr.: Drug-induced Extrapyramidal Reactions: Their Clinical Manifestations and Treatment with Akineton. Psychosomatics 1:143 (May-June) 1960.

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Antibiotic Beneficial In Chronic Bronchitis

Tetracycline, an antibiotic introduced in 1954, is beneficial to persons suffering chronic bronchitis, a group of Johns Hopkins researchers reported recently.

In a study of 32 patients, it was found that during tetracycline therapy the intermittent flareups typical of the condition were less frequent and there was general improvement to some degree in a number of patients, Drs. Philip S. Norman, Edward W. Hook, Robert G. Petersdorf, Leighton E. Cluff, Malcolm P. Godfrey, and Allan H. Levy, Johns Hopkins University and Hospital, Baltimore, said.

Writing in the March 17 *Journal of the American Medical Association,* they said the study confirms that tetracycline can prevent many of the bacterial infections which cause exacerbations and can lessen the severity of those which do occur.

Two types of germs, Hemophilus influenzae and Diplococcus pneumoniae, have been shown to be constantly present in the bronchial passages of these chronic sufferers, and absent in normal persons. In this study, there was a correlation between lowering of the number of these germs by tetracycline treatment and improvement in the patient.

This finding supports the theory that chronic bronchitis is "somehow linked" to these organisms, the authors said.

The patients studied were treated with the antibiotic for three-month periods at intervals of three months during which an inert substance was given so that neither the patient nor his attending physician knew when the drug was being administered, they said.

Only about one-third as many exacerbations occurred during tetracycline treatment as occurred during the periods the drug was withheld, they said.

In addition to this "striking reduction" in exacerbations, the authors said, 60 per cent of the patients showed overall improvement during tetracycline therapy.

Adverse reactions attributable to the antibiotic were "very few," they said.

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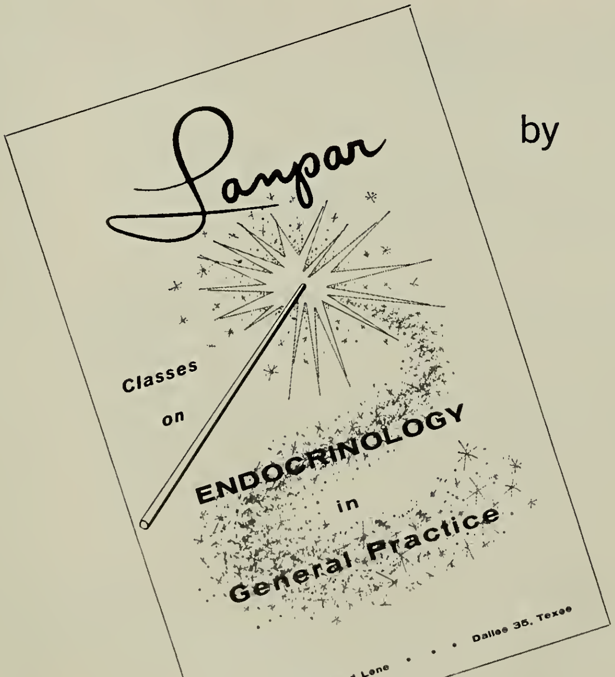

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REFERENCES AND REVIEWS

THE GOLDEN ERA OF IRISH MEDICINE—K. M. Cahill. New Engl. J. Med.—Vol. 266:544 (March 15) 1962.

Clinical teaching was introduced to the English-speaking world during the first half of the 19th century. A school of medicine led by Graves, Stokes, Adams, Cheyne, Colles, Corrigan, Alcock, Houston, Wallace, and Rynd left behind not merely descriptions that became everyday eponyms in the history of medicine, but concepts of education including the need for bedside instruction and the first formal courses in public health. Disciples, in both Europe and the United States, propagated these original tenets of the Gaels so that they have become accepted practices in medicine today.

* * *

SERUM ACID PHOSPHATASE ELEVATION IN CERTAIN MYELOPROLIFERATIVE DISEASES—R. Bases. New Engl. J. Med.—Vol. 266:538 (March 15) 1962.

Serum acid β-glycero-phosphatase was found to be elevated in 9 of 16 patients with myeloproliferative diseases. Levels of enzyme activity correlated with leukocyte count and platelet count or both in some patients. This new finding awaits further study.

* * *

SPELLBINDING AND SPELLBREAKING IN CONVALESCENCE—G. Day. Lancet—Vol. 1:211 (Jan. 27) 1962.

"Spells" are unwarrantable doubts and fears implanted in a patient's mind by overcautious doctors, officious nurses, and lugubrious fellow patients. Inevitably they hinder and may even arrest convalescence. Active rehabilitation involves discovering these "spells" and breaking them not by words alone but by deeds: making the patient try and prove to his own satisfaction that they are false. An impressive therapeutic examination ("a blunderbuss white spell") may often be necessary to dispel undisclosed fears too terrible to be uttered aloud.

* * *

MUCOVISCIDOSIS AND ADULT CHRONIC BRONCHITIS—D. C. Muir, J. Batten, and G. Simon. Lancet—Vol. 1:181 (Jan. 27) 1962.

The fundamental disturbance in chronic bronchitis is abnormal secretion of mucus. The cause of this is not yet clear. Some authors observed high sodium chloride levels in the sweat of patients with bronchitis. The possibility arises of mucoviscidosis (where sweat electrolyte abnormalities occur) playing some part in bronchitis. The authors used the sweat plate test (Schwachman 1956, MacFarlane 1957) to examine 100 cases of chronic bronchitis, 42 of other mixed chest diseases, and 25 normals. No differences were found in the three groups observed. The authors conclude that mucoviscidosis plays no part in the causation of adult chronic bronchitis.

* * *

DOUBLE LUMEN TUBE FOR GASTRIC AND ESOPHAGEAL WASHINGS—N. A. Ghossein and C. J. Britsch. Amer. J. Clin. Path.—Vol. 37:279 (March) 1962.

A double-lumen tube for gastric and esophageal washings for cytologic study is described. This tube allows normal saline to be injected into the organ desired and to be withdrawn simultaneously. This causes a flow of saline to wash the epithelium of the organ and increases desquamation of cellular material. The operation of this tube is simple. The tube has proved to be as safe to use as a nasogastric tube.

(Continued on Page 29)

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1. Ford, R. V.: Clin. Res. Notes 2:1 (Dec.) 1959. 2. Ford, R. V.: Cur. Therap. Res. 2:92 (Mar.) 1960. 3. Elliott, J. P., Jr., and Goldman, A. M.: South. M.J. 54:794 (July) 1961.

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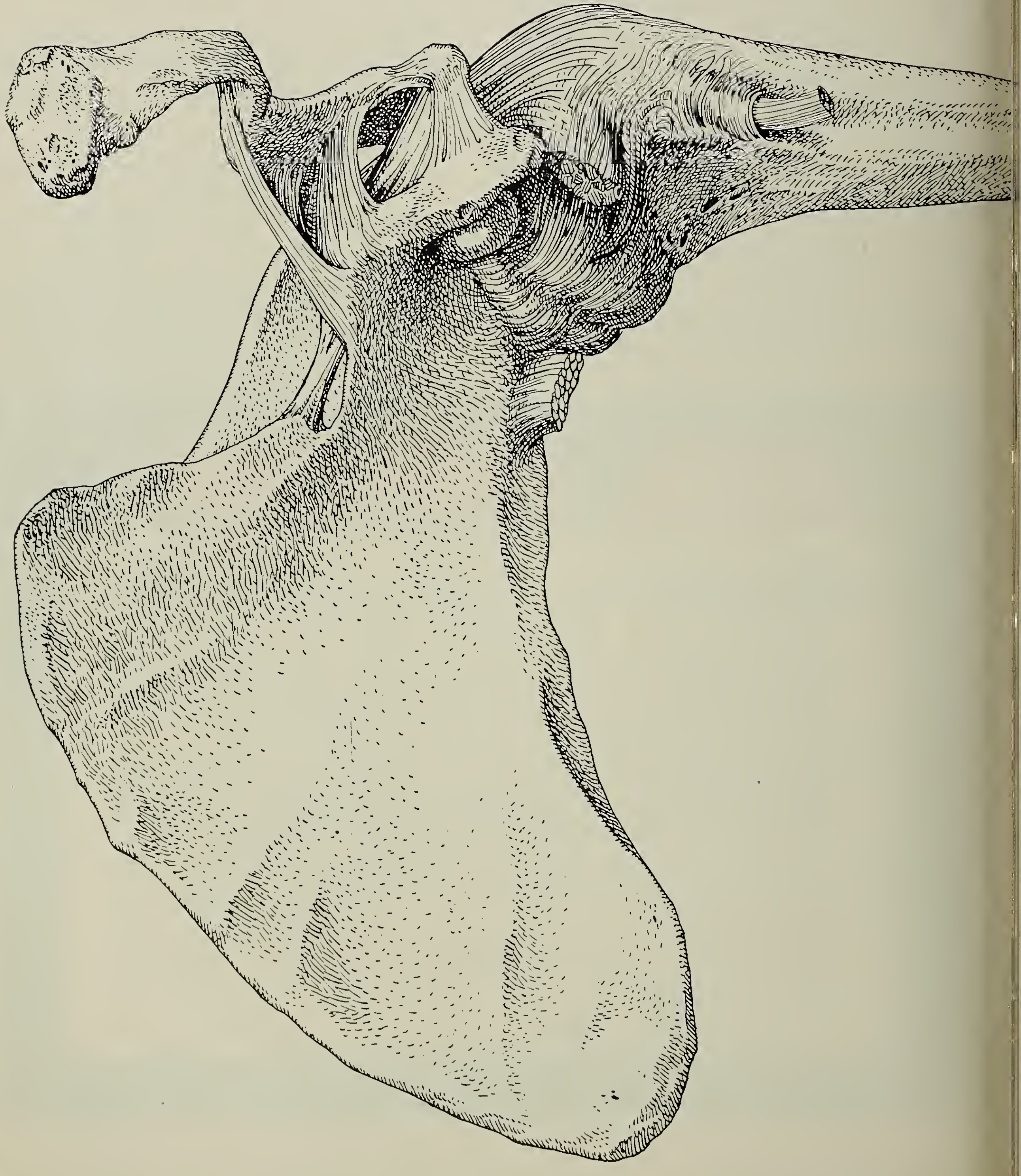

REFERENCES AND REVIEWS

(Continued from Page 25)

SIMPLE MICROSPECTROPHOTOMETRIC METHOD FOR DETERMINATION OF SERUM CALCIUM—W. W. Webster, Jr. Amer. J. Clin. Path.—Vol. 37:330 (March) 1962.

A simple and reproducible method for the determination of calcium in micro and semimicro quantities of serum is presented. Calcium is quantitatively precipitated by sodium chloranilate. The precipitate is washed with isopropyl alcohol and made to react with ferric chloride to produce an intense and stable color which is measured spectrophotometrically. This method exhibits excellent correlation with the permanganate titration method of Clark and Collip.

* * *

LEUKOCYTE ISOLATION—A. R. Christlieb, A. J. Sbarra, and W. A. Bardawil. Amer. J. Clin. Path.—Vol. 37:257 (March) 1962.

Introduction of a Teflon homogenizer in conventional leukocyte isolation techniques yields preparations with 99.9 per cent purity and 30 per cent recovery. Resulting cells are morphologically intact, viable as judged by respirometry, phagocytosis, redox activity, and eosin dye uptake. Further, they are capable of producing hypersensitivity reactions in selected patients.

* * *

DRUG-RESISTANT TUBERCULOSIS: AFTERMATH OF CHEMOTHERAPY—A. C. Cohen. Arch. Environ. Health—Vol. 4:396 (April) 1962.

Drug-resistant tubercle bacilli develop when tuberculosis is treated inadequately. The patient who harbors such bacilli is difficult to treat successfully; his response to drugs is poor, his treatment is prolonged; he has more complications following surgery, his risk of dying of tuberculosis is increased. Drug-resistant tubercle bacilli are often virulent and may be spread to other persons, who then share the first person's refractoriness to treatment. Drug-resistant tubercle bacilli are becoming increasingly common, and pose a threat to the public health; they make the eradication of tuberculosis more difficult. Since they result from inadequate chemotherapy, it is vital that all patients with tuberculosis be treated effectively and adequately from the start.

* * *

FIFTY-THREE CASES OF COARCTATION OF THE AORTA—R. R. Martelle and A. J. Moss. Amer. J. Dis. Child.—Vol. 103:556 (April) 1962.

The authors review the diagnosis and management of 53 consecutive cases of coarctation of the aorta. They emphasize the low mortality and morbidity rates in surgical correction of the uncomplicated coarctation in childhood and the high incidence of congestive heart failure when coarctation is complicated by other intracardiac defects. Infant mortality is high in those with complicated lesions with either medical or surgical management.

* * *

FUNCTIONAL CYTOLOGY OF THE HUMAN BASOPHIL IN ALLERGIC PHYSIOLOGIC REACTIONS: TECHNIQUE AND ATLAS—W. B. Shelley and L. Juhlin. Blood—Vol. 19:208 (Feb.) 1962.

A simple method is described for the rapid liquid fixation, concentration, and staining of the blood basophil in man and in experimental animals. Morphologic alterations in basophils have been illustrated and a technique of classifying them has been presented. The technique has proven useful in the study of anaphylactic sensitivity reactions, as well as the cytological responses of the basophil to physiological and pharmacological stimuli.

(Continued on Page 31)

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Raddin, J.: Med. Times, July 1961

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Hootnick, H. J.: J. Am. Ger. Soc., 4:1021-1030, 1956

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Marshall, W.: S. D. J. Med. & Pharm., 8:151-153, 1955

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USAN, Term to Designate Generic Drug Names

"United States Adopted Names"—USAN—will be the new term applied to nonproprietary names of drugs by the recently formed Drug Nomenclature Committee of the American Medical Association and the United States Pharmacopoeia.

Primary objective of the new committee is to find a single, suitable, nonproprietary name for each drug in general use.

The term "USAN" does not mean that the names are adopted by or have specific sanction from the federal government.

The term, U. S. Adopted Names, applies only to those names chosen by the AMA-USP Nomenclature Committee since its establishment in June 1961. While, in general, the committee is concerned with USAN for new drugs, it has acted upon some "generic names" that were in use prior to June of last year.

To date, the committee, with increasing cooperation from individual pharmaceutical firms, has assigned U. S. Adopted Names to more than 100 new compounds of therapeutic interest. Lists of USAN are now being made available for publication.

Because proposals for USAN may originate wherever pharmaceutic research is in progress, they may differ considerably in both derivation and length. Through an Advisory Panel on Pharmaceutical Nomenclature, the committee is studying the general principles for coining nonproprietary names. These principles will be circulated widely among all who have occasion to propose names, in order that the future names for drugs may be less subject to criticism on grounds of being too long, unwieldly, and hard to pronounce.

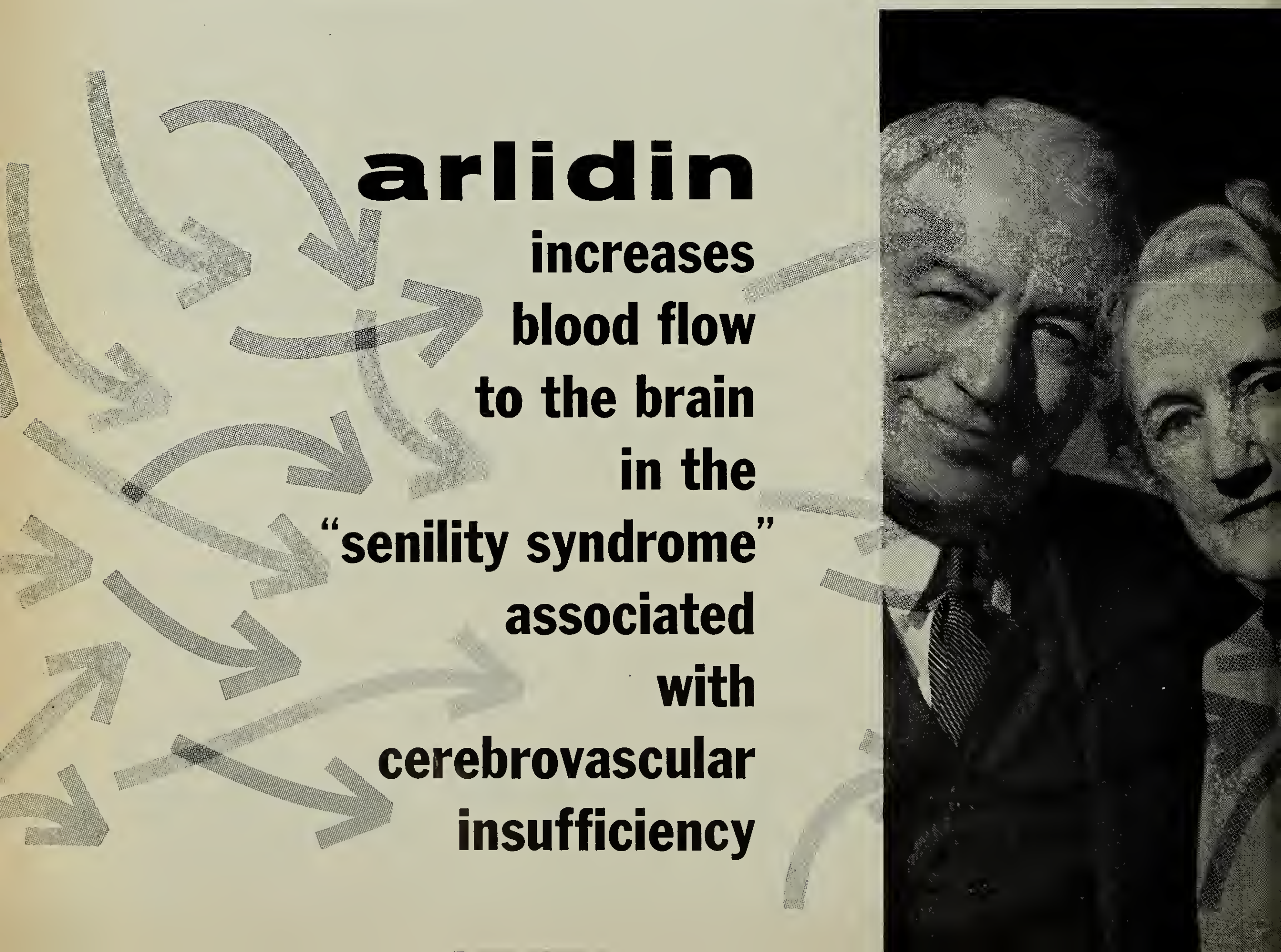
Information on the AMA-USP program may be obtained upon inquiry to Dr. Joseph B. Jerome, Assistant Secretary, Council on Drugs, American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois.

Go Ahead, Shiver, It Warms You

Don't hesitate to shiver when it's cold.

Violent shivering can result in a three to fourfold increase in body heat production, according to Robert E. Smith, Ph.D., department of physiology, University of California, Los Angeles.

Writing in the March 24 *Journal of the American Medical Association,* Dr. Smith said shivering was a "major defense" against body cooling from cold exposure. He also said shivering is a more "economical" producer of heat than exercise because shivering involves no external work function.



Red Chinese Medicine: Great Leap Backward

The health of Red China's 600 million people is in the hands of "perhaps the most undertrained, medievally oriented, and politically infected medical profession in the world," according to Arturo F. Gonzalez, Jr., creative director of *The Asia Magazine,* Hong Kong.

Writing in the April *Today's Health,* published by the American Medical Association, Gonzalez said in 1958 the Red Chinese took "a giant step backward—a step they are still taking."

China's Western-trained physicians, the cream of the country's medical profession, in 1958 were summarily ordered by Ho Ch'eng, the army doctor who became the head of Chinese public health, to revert to traditional Chinese methods in treating patients, he said.

Medically these men were ordered back to the Dark Ages—and all were told to plan upon extensive "training" of up to two and a half years in traditional medicine, he said.

Traditional medicine, practiced for centuries in China, employs acupuncture, lancing the skin, muscle or other tissue with a long silver needle; the use of herbs, said to cure everything from appendicitis to fractures; breath control, and shadow boxing, Gonzalez said. The traditional practitioners blame internal diseases on the "seven passions" and external diseases on "six excesses," he said.

Until 1958, traditional practitioners worked side by side with Western-trained physicians, he said, and then the hammer fell.

"The 'new' Chinese theories of medicine read like an allegory out of the time of Charlemagne heavily laden with Marxist dialectic," Gonzalez said.

In a recent Red Chinese medical journal, he said, specialists were accused of hindering the development of science and patients were told to "establish revolutionary optimism and fight their diseases with strong will power."

(Continued on Page 44)

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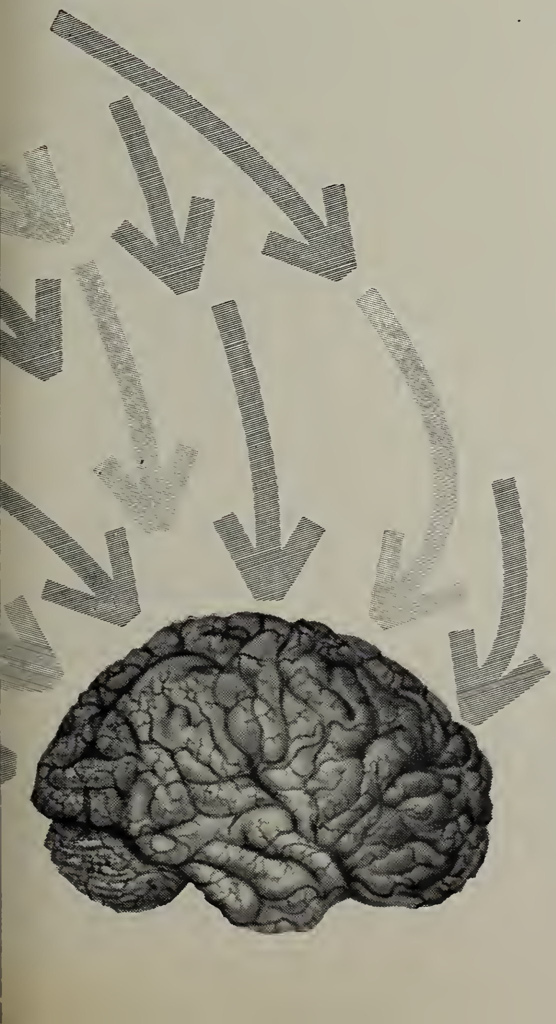

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references: 1. Madow, L.: Penn. M. J. 62:861, June 1959. 2. Stieglitz, E. J.: Geriatric Medicine, ed. 2, Philadelphia, Saunders, 1949 p. 274. 3. Winsor, T., et al.: Amer. J. Med. Sciences 239:594, May 1960. 4. Eisenberg, S.: ibid, July 1960.

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Killed Measles Vaccine Tested in 5,000

A field trial of an improved killed measles virus vaccine, involving more than 5,000 children, has produced encouraging results, it was reported in the March 17 *Journal of the American Medical Association.*

The study, conducted between September, 1960, and July, 1961, in several different locations, indicated that the vaccine was 90 to 100 per cent effective.

The results were reported by C. H. Carter, M. D., Orlando, Fla.; D. Cornfeld, M.D., Philadelphia; C. H. Kempe, M.D., and Corlo Moscovici, Ph.D., Denver, L. W. Rauh, M.D., Cincinnati; D. G. Iezzoni, M.D., and A. J. Vignec, M.D., New York City; and T. J. Conway, M.D., and Joel Warren, Ph.D., Terre Haute, Ind.

Vaccine used primarily in this field test was more powerful than vaccine used in earlier pilot studies, the authors said. It had been concentrated, partially purified and combined with an adjuvant to enhance its effectiveness, they said.

Between 90 and 100 per cent of those susceptible to measles will develop immunity if adequate amounts of this concentrated, killed measles virus vaccine is administered at suitable intervals, the authors said.

Persons who respond to the vaccine appear to be "solidly immune" to subsequent infections with naturally occurring measles, they said.

The researchers also found that a significant proportion of persons inoculated with the killed vaccine gained a higher level of immunity on subsequent exposure to measles infections. This is not true of persons inoculated with live measles virus vaccine, they said.

Babies in the first year of life responded to the killed vaccine as well as older children, the authors said.

The possibility of combining killed measles vaccine with diphtheria-whooping cough-tetanus-polio inoculations was investigated as part of the study. The results indicated that babies given their first measles inoculation at as early an age as three months could be provided with satisfactory immunity in at least 75 per cent of those inheriting moderate to high measles immunity from their mothers, they said.

Although a variety of schedules for administering three doses of the vaccine were tried during the study, the researchers said, the best schedule was not definitely established. Preliminary findings indicate that immunity begins to diminish within three to five months after vaccination, they said.

No significant reactions to the vaccine have been reported, the authors said.

"In general, the incidence and severity of reactions appeared to parallel those encountered after use of the Salk poliovaccine," they said.

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***eunoia:** A normal mental state (Stedman's Medical Dictionary).

†Favorably alters tension/anxiety.

BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE *are acknowledged in this column. Selections will be made for more extensive review in the interest of readers as space permits.*

A TEXTBOOK OF OBSTETRICS—Duncan E. Reid, M.D., William Lambert Richardson Professor of Obstetrics and Head of the Department of Obstetrics and Gynecology, Harvard University Medical School; Chief of Staff, Boston Lying-in Hospital. W. B. Saunders Company, Philadelphia, Pa., 1962. 1087 pages, $18.50.

AN ATLAS OF HEAD AND NECK SURGERY—John M. Loré, Jr., M.D., F.A.C.S., Attending Surgeon, Good Samaritan Hospital, Suffern, New York; Associate Attending Surgeon, Head and Neck Service, Department of Surgery, Saint Clare's Hospital, New York, N. Y.; Consultant Surgeon, Tuxedo Memorial Hospital, Tuxedo, N. Y. Illustrated by Robert Wabnitz, Director of Medical Illustration, University of Rochester Medical Center, Rochester, N. Y. W. B. Saunders Company, Philadelphia, Pa., 1962. 490 pages, $25.00.

CIBA FOUNDATION STUDY GROUP NO. 9—Progesterone and the Defence Mechanism of Pregnancy, in honour of Dr. G. W. Corner. G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Margaret P. Cameron, M.A., Editors for the Ciba Foundation. Little, Brown and Company, 34 Beacon Street, Boston, Mass., 1961. 108 pages, $2.50.

CLASSICS OF CARDIOLOGY (former title: Cardiac Classics)—A Collection of Classic Works on the Heart and Circulation with Comprehensive Biographic Accounts of the Authors—Frederick A. Willius, M.D., M.S. in Med., Former Chief, Section on Cardiology, Professor Emeritus of Medicine, The Mayo Foundation for Medical Education and Research, The Graduate School, The University of Minnesota; and Thomas E. Keys, A.B., M.A., Librarian, The Mayo Clinic; Assistant Professor of History of Medicine, Mayo Foundation for Medical Education and Research, The Graduate School, The University of Minnesota. Dover Publications Inc., 180 Varick Street, New York 14, N. Y., 1961. 2 Volumes, $2.00 each Volume. (Paperback Edition) Volume I, 399 pages; Volume II, 459 pages.

DRUG THERAPY—Frank C. Ferguson, Jr., M.D., Professor of Pharmacology and Chairman of the Department of Pharmacology, the Albany Medical College of Union University, Albany, New York. Lea & Febiger, Washington Square, Philadelphia 6, Pa., 1962. 411 pages, $7.50.

EARLY DETECTION AND DIAGNOSIS OF CANCER—Walter E. O'Donnell, M.D., Visiting Investigator, Sloan-Kettering Institute for Cancer Research, New York, N. Y.; former Assistant Director, Strang Cancer Prevention Clinic, Memorial Hospital for Cancer and Allied Diseases, New York, N. Y.; Emerson Day, M.D., F.A.C.P., Director, Strang Cancer Prevention Clinic, Memorial Hospital for Cancer and Allied Diseases, New York, N. Y.; and Louis Venet, M.D., F.A.C.S., Associate Director, Strang Cancer Prevention Clinic, Memorial Hospital for Cancer and Allied Diseases, New York, N. Y. Drawings by Shirley Baty, Supervisor, Medical Illustration Department, Memorial Hospital for Cancer and Allied Diseases, New York, N. Y. The C. V. Mosby Company, St. Louis, Mo., 1962. 286 pages, with 82 figures and 3 color plates, $12.00.

FINGER PRINTS, PALMS AND SOLES—An Introduction to Dermatoglyphics—Harold Cummins, Ph.D., Professor of Anatomy and Assistant Dean, School of Medicine, Tulane University; and Charles Midlo, M.D., Formerly Associate Professor of Microscopic Anatomy, Tulane University. Dover Publications, Inc., 180 Varick Street, New York 14, N. Y., 1962. 319 pages, Paperback Edition, $1.95.

HALLUCINATIONS—Edited by Louis Jolyon West, M.D., Professor and Head, Department of Psychiatry, Neurology and Behavioral Sciences, University of Oklahoma Medical Center, Oklahoma City, Oklahoma. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1962. 295 pages, $9.75.

INTERNAL MEDICINE IN WORLD WAR II—Volume I, Activities of Medical Consultants (Medical Department, United States Army). Prepared and published under the direction of Lieutenant General Leonard D. Heaton, The Surgeon General, United States Army. Colonel John Boyd Coates, Jr., MC, Editor in Chief, and W. Paul Havens, Jr., M.D., Editor for Internal Medicine. Office of the Surgeon General, Department of the Army, Washington, D. C., 1961. For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Price $7.50 (Buckram). 880 pages.

LIVE HIGH ON LOW FAT—Sylvia Rosenthal. With a foreword by Jeremiah Stamler, M.D. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pa., 1962. 328 pages, $6.75.

MANAGEMENT OF EMOTIONAL DISORDERS—A Manual for Physicians—A. H. Chapman, M.D., Assistant Clinical Professor of Psychiatry, University of Kansas School of Medicine; Attending Psychiatrist, St. Mary's Hospital, Menorah Medical Center, and Research Hospital, Kansas City, Mo. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pa., 1962. 259 pages, $8.50.

PRACTICAL MANAGEMENT OF THE OBESE PATIENT—Frank L. Bigsby, M.D., and Cayetano Muniz, M.D. Intercontinental Medical Book Corporation, 381 Park Avenue South, New York 16, N. Y., 1962. 151 pages, $4.00.

PROBLEMS OF BLOOD PRESSURE IN CHILDHOOD—Arthur J. Moss, M.D., Associate Professor of Pediatrics (Cardiology), Department of Pediatrics, and Forrest H. Adams, M.D., Professor of Pediatrics and Head Division of Cardiology, Department of Pediatrics, both at the University of California School of Medicine, Los Angeles. Charles C. Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1962. 106 pages, $5.50.

PROGRESS IN HEMATOLOGY—VOLUME III—edited by Leandro M. Tocantins, M.D., with 25 contributors. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1962. 384 pages, $16.50.

VECTOR ELECTROCARDIOGRAPHY — Herman H. Uhley, M.D., Assistant Chief, Department of Medicine, Mount Zion Hospital and Medical Center, San Francisco, California. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pa., 1962. 339 pages, $8.50.

NEW BOOK

ATLAS OF OBSTETRICAL COMPLICATIONS

By FREDERICK H. FALLS, M.D., and CHARLOTTE S. HOLT. 708 pages. Illustrated. (1961) Lippincott. $40.

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Red Chinese Medicine: Great Leap Backward

(Continued from Page 39)

"Politics intrude on every diagnosis," he continued.

"The most common ailments, affecting perhaps 70 per cent of all patients, are dropsy and liver inflammation, caused by malnutrition and vitamin deficiency. But labeling the diseases for what they are labels a doctor as a 'rightist.' Surely he can't believe there's malnutrition in the people's paradise? Is the patient possibly malingering?"

The Party Line also preaches that Western physicians study medicine with the aim of gaining personal fame and profit, he said.

This is one of the reasons why Chinese medical men have cut their ties with Western medicine so completely that even faced with a massive cholera epidemic on the mainland they could not bring themselves to communicate the simple facts of the case to their Western colleagues beyond the Bamboo curtain, he said.

"Seldom in history has a medical profession so reversed the course of progress as has medicine in Red China today," Gonzalez said.

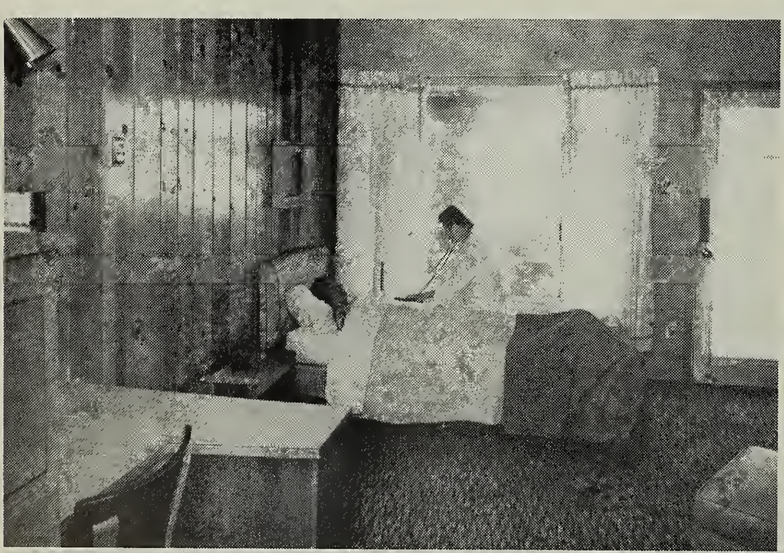
"When one realizes that this profession serves the world's most populous country, one can envision an eventual medical disaster which could make last year's 50,000 cholera deaths seem like a mere drop in the bucket.

"Attempting to evaluate the impact on the world of China's great leap backward in medicine is almost impossible. If the Reds persist in ignoring epidemics and hiding their presence from the rest of the unsuspecting world it is not impossible to foresee some future disaster outside the Bamboo Curtain.

"But even if the free world escapes the perils of Chinese practice, what about the fate of the 600 million Chinese who today are being treated by perhaps the most undertrained, medievally oriented, and politically infected medical profession in the world? It is their plight which commands our sympathy and their fate which makes China's great leap backward in medicine the terrible human tragedy which it appears to be."

ESTIMATION OF FAT ABSORPTION BY MONITORING EXPIRED RADIOACTIVE CO_2—A. D. Schwabe, F. J. Cozzetto, L. R. Bennett, and S. M. Mellinkoff. Gastroenterology—Vol. 42: 285 (March) 1962.

A rapid, quantitative method for the diagnosis of steatorrhea, based on oral administration of radioactive glycerol trioctanoate (RATO) and study of its oxidative decarboxylation as determined by monitoring expired C^{14}-labelled CO_2, is presented. Preliminary studies of 20 controls and 21 patients with various types of steatorrhea suggest that this technique is worthy of further exploration in malabsorptive states.



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MEDICINE
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Volume 96 MAY 1962 Number 5

The Responsibilities of Excellence

WARREN L. BOSTICK, *M.D.*, San Rafael

TODAY America stands in urgent jeopardy, not because of an absence of material wealth or armed might, but because the principles upon which she was founded, that have made her great, are being effectively challenged. And yet this is occurring when she was never more active or responsive to the social and economic needs of the world. Her generous acts are legion—foreign aid, UN support, food distribution, alliance for progress, just to name a few.

In spite of this, America is not understood or appreciated. Criticism, the tax that society places on the eminent, is rampant and her enemies abound. Thus in a world of evil and aggression, democracy cannot be defended by fine deeds alone. Men of good will and high purpose must unite in a militant dedication and aggressive defense of the principles that permit it to survive and thrive.

Many of America's enemies are on the outside, but the most dangerous ones are within. These are the ones who are eroding the moral fiber of personal dignity, individual responsibility and freedom. They undermine their country by dividing and attacking one segment at a time—removing its freedoms, forcing it into government and destroying the citizens' right to voluntary decision.

Medical care is currently the object of such a major attack from within. For doctors economically, there is little danger from any change, since they are resourceful. The risk is to Americans and to the world-recognized high quality medical care that they enjoy.

We have all been admonished to "ask not what your country can do for you but what can you do for your country." That is a challenge that doctors have traditionally responded to. We have come to the aid of our country in the area of our greatest knowledge and ability—health—whether at war or in peace. However, guarding America is more than caring for her health. It entails working in union with other organizations—business, the professions, farmers, responsible labor, elected representatives—who in their specialized areas are fighting in their own sector the attrition of the basic democratic ideals of individual freedom. We all know that if freedom is in jeopardy anywhere, it is in jeopardy everywhere. Let each in his own field sound the alarm and let us all unite in our common purpose.

The specific duty that America places on her physicians is guarding her health and the system that permits it to flourish. In this area there are many threats and numerous challenges. However, guarding does not mean defending the "status quo"; there must be evolution, new methods, fresh concepts. Flexibility and experimentation are essential. New habits and desires in health have arisen in America. Each year our services become more worth buying, due to the successes of our system of scientific medicine. The public recognizes this and considers the opportunity for good health a social necessity—as it is.

With rising living standards, the people commit an ever greater fraction of their income in order to assure good health, the better to enjoy a life which is more worth living than ever before in the history of the world. This massive investment in health has

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Presidential address, presented before the first meeting of the House of Delegates of the California Medical Association, April 14, 1962.

created two basic demands: A new method of financing and a guarantee of quality as related to cost.

Installment purchases and credit cards have replaced the cash basis of yesterday's economy. Right or wrong, the public demands that large expenses be out of sight. For things of an "accidental" nature, it believes in insurance—and health is such an item.

All California takes great pride in the knowledge that her medical association was the originator of the Blue Shield, Physicians' Service concept in America. This concept has blossomed into some 53 programs throughout the country. California has been a leader again through the more recent formation of individual county medical society groups into Foundations for Medical Care. Time and again this House has given support to the insurance method for medical care, knowing that as voluntary prepayment goes, so goes private voluntary medical care in America.

However, for the voluntary insurance program to grow, a great deal of physician understanding and guidance is required. Of paramount importance is its extension to the elderly after retirement. They must at least be able to begin to pay for it during their working years. Our aggressive support of community rating for premium levels is most important. The new C.P.S. very comprehensive 65+ program is excellent. It shows to the public what doctors have long recognized: A good program is not identified by its low premium but by the extent of its coverage. It must be at least extensive enough to protect the patient from difficult cash outlays. Medicine's duty in public service is not fulfilled until this is made possible and achieved.

Following the directive of this House, we are assuming leadership in setting the *standards* for adequate health insurance. The "Components of an Adequate Health Insurance Program" is our recent most important effort in this area. These are to serve as guide lines for the public to use as it decides to purchase its health insurance needs. Even though we have opinions regarding them, we must not bog down discussing details that are for the buyers to decide, such as extent of co-insurance, deductibles, major medicals, or for that matter even service vs. indemnity.

Our job is to set our rules and guides for providing our services with quality assured and at a fair price. In a free economy the individual consumer can safely decide on the methods of purchase and the degree of risk he is able or wants to assume. But it is on this very point that we seem most trammeled. While public impatience grows, we flounder in semantics, in diffuse discussions of principles, in poor communications. Some are for insurance and yet say they are against prepayment; others give lip service to C.P.S. and yet don't want it to grow; a few seem to believe if only we could get rid of the Relative Value Study, we could get rid of all sorts of third parties.

Happily, however, I find a remarkable degree of unity when doctors take the time to become informed. This House is the classical example. Consistently it has done its homework and learned the facts. It does not act in haste, temper or prejudice, as it carefully considers important problems for all California—health insurance, C.P.S., Foundations, osteopathic unification, proper role of government in the medical care for the aged, quality and abuse controls, just to mention a few.

During this past year, major progress has been made in the assurance of quality in medical care. Above all, this must be the major responsibility of the medical profession. This is the one thing only medicine and doctors can give. Many groups, and especially government, would like to become the accepted authority in this field. Unless medicine assumes aggressive leadership in this area it will pass to others.

We had a statewide conference on Quality Measurement. We have cooperated with the California Hospital Association in establishing our guiding principles for hospital-physician relationships, and we have commenced the inspection of individual hospitals to evaluate their quality of medical practice.

Yes, quality assurance does mean conforming to rules, working as a team, setting standards. But medicine has always stood for this, as it has demonstrated by its creation of high medical school standards, specialty boards, hospital staff principles. This is one of the basic demands that the public makes of us. It wants quality demonstrated and guaranteed. It must be able to recognize it, understand it and appreciate it. Perhaps doubt about the government's ability to assure quality and dedication is the single reason why citizens still demand private medicine for their care. Let that doubt never be doubted!

But if quality is foremost, cost is not far behind, for people are truly concerned about the cost of medical care—and rightly so. For one thing, they have been misled about the true cost—which can only be expressed in terms of the purchasing power of the dollar. Due to the efforts of medicine, the true cost of medical care since 1942 has dropped as gauged by people's more rapidly rising income. In addition, each year witnesses an improvement in the quality of medical care we are able to give. Never before have Americans been better able to afford, nor had available, medical services of today's excellence. In every regard, health care is one of the best buys of our time. And yet we must and are going beyond that. Our patients must be certain that we have and use control systems—as we do—that prevent waste and stop unnecessary hospitalization or medical services. Our publicized efforts in this area must never cease.

If quality is assured, if cost is reasonable and insurance is purchasable, our patients want only one other guarantee—namely, availability. In that regard, we can look back with satisfaction at this year. Of course our Physician Placement Service is active throughout the state. You have read in the newspapers of our participation in the new Northern California Regional Hospital Planning Council. This council was created to recommend rules by which hospital facilities could be distributed most effectively in the state.

May we point with special pride to the new private medical school—the California College of Medicine that recently received accreditation by the Council on Medical Education and Hospitals of the American Medical Association and the American Association of Medical Colleges. By guiding that osteopathic college into the full production of doctors of medicine for the state, we have made a major and unique contribution to the immediate and future availability of physicians for Californians.

In reviewing the challenges and obligations that lie before us, I should like to end by observing that, like America in the world, personal medicine of high quality faces a threat that goes far beyond whether or not all the medical needs of our people are being met. At the world level, this threat is represented by those who want to change the social system from one of individual responsibility and self determination to one of totalitarianism and monolithic uniformity.

Within America there are great and persistent elements that want to force a single massive bureaucratic pattern on all American industry, labor, professions and services. All these true expressions of our freedom are in jeopardy. Some have fallen, and the total health services of America have been marked for next.

Efforts and progress by the private sector have been unprecedented: Voluntary health insurance's bursting growth; accelerated availability of it for the aged; quality standard and control by medical societies at levels never achieved before; holding down costs well below that of the rising income of consumers, just to mention a few.

Even more, medicine has always acknowledged that government has a traditional role in assisting those who need help. In order to assure that no unmet need exists, we cooperated with Democrats and Republicans in the last Congress to devise a new law. Our Congress heard at length the arguments from those in favor of self-determination and local guidance, as well as from those who believe in regimentation, massive centralization and compulsion. After careful deliberation, Congress voted in favor of the Kerr-Mills Law and rejected the compulsory Social Security payroll tax method.

And now, even as the favored method is just being implemented throughout the country, and before it has had a fair trial, the enemies of personal health services are acting to force the American health system into a massive government subsidy program. Like all government subsidized programs, this Social Security payroll tax proposal will open the floodgate of waste, inefficiency and political pork barreling.

Fortunately we are not alone in the recognition of this great threat to the American system of individual medical care and to the principles of American freedom, ingenuity and self-reliance. Many groups in the private sector see the danger. We all are bending every resource to get the fact before the people. We know that the vast majority of people, including the aged, will recognize the threat from government if they can really see the whole picture.

But in our issue—the one that involves defending the quality health system of America—doctors themselves must become knowledgeable, certain, inspired. You, the members of this House, are the informed leaders of California medicine. You must act. Dante said, "The hottest part of Hades is reserved for those who, at a time of moral crisis, refuse to take a side and act."

Gentlemen, this threat to America is a moral crisis and of the most fundamental type. It is no longer an issue of unmet needs. There literally are none. Whatever problems exist in our system—and we don't claim it's perfect—are the result of the success of the present form of patient-controlled individual medical care, and not its failures. Last month in Berkeley, President Kennedy said, "America stands for a world based on diversity, self-determination, and freedom." All we ask is that he and everyone demand that at least those same blessings also remain for the people of our own country.

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Erythroblastosis Fetalis

Obstetrical Management

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• The anemia of erythroblastotic infants can be predicted antenatally by the indirect Coombs test, amniotic fluid pigment levels and maternal excretion of chorionic gonadotrophin. The only effective therapy for fetal anemia is delivery before the development of fetal hydrops. This may be accomplished by focusing attention on factors indicative of fetal anemia and by delivering potentially anemic fetuses as soon as they are sufficiently mature to escape the problems of prematurity.

THE OBSTETRICAL MANAGEMENT of erythroblastosis fetalis (hemolytic disease of the newborn) has two objectives. The first is recognition of the sensitized patient, usually accomplished merely by routine Rh study of all pregnant women. The occasional sensitized patient in whom the condition is not detected until erythroblastosis is noted in the newborn is the Rh-positive patient who possesses antibodies to some of the rare antigenic factors such as E, c or Kell. Sensitization of this type is frequently the result of blood transfusions and will be detected if pregnant patients with a history of blood transfusions are routinely screened for antibodies against a panel of cells.

The second and largely unfulfilled objective of the obstetrical management of erythroblastosis fetalis (EBF) is the prevention of fetal hydrops. Experience with hydropic newborn infants indicates that they would better be allowed a quiet, inexpensive death in utero, for almost always they die in the nursery despite great effort on the part of the pediatric staff. Fetal hydrops represents the end stage of the erythroblastotic syndrome, and it apparently follows the right heart failure which in turn is secondary to severe fetal anemia. Prevention of severe fetal anemia in cases of EBF must then be the goal of obstetrical management.

ANTENATAL CLINICAL DIAGNOSIS OF FETAL HYDROPS

Fetal hydrops can be diagnosed antenatally by either the appearance of the "maternal syndrome" or by the patient's own awareness that the fetus is severely ill. A study of repeat antenatal fetal deaths at the University of Minnesota Hospitals, including patients with cardiovascular-renal disease, diabetes mellitus, abruptio placentae and isoimmunization, showed impressively that very often certain symptoms prompted the patient to inform the obstetrician that fetal death was imminent. These symptoms included an awareness of decreased fetal movements, but sometimes merely a vaguely defined feeling of illness. In patients in which fetal death is a distinct possibility, such complaints must be seriously evaluated.

The "maternal syndrome" precedes approximately one-third of all fetal deaths due to EBF and occurs only when the fetus is hydropic. The mechanism by which it comes about is unknown, but the etiological agent is most probably in the erythroblastotic placenta. It consists of rapidly developing fluid retention, including hydramnios, and generalized pruritus.[3] The pruritus, which was first described by Kaiser,[6] distinguishes this syndrome from toxemia of other types. The maternal syndrome may be present for as long as three weeks before fetal death, and in those cases in which termination of the pregnancy is not indicated because of prematurity, it is usually present for at least one week before fetal death.

Careful attention to details will allow the obstetrician to make the diagnosis of fetal hydrops before delivery. Unfortunately, this is usually only an academic exercise, for such advance information will seldom lead to the salvage of a live infant. Needed, then, are objective antenatal tests for the presence of fetal anemia before hydrops develops.

ANTENATAL LABORATORY DIAGNOSIS OF FETAL ANEMIA

Three parameters are available for the antenatal diagnosis of fetal anemia in sensitized pregnant women. These are the maternal Rh antibody titer, pigmentation studies of the amniotic fluid, and the determination of maternal chorionic gonadotrophin excretion.

The indirect Coombs test is now the standard test for Rh antibodies in the serum. While it is an excellent screening test for detecting sensitization in the mother, it is of limited diagnostic value for determining anemia in the fetus. The partial-absorption

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technique as described by Kelsall and coworkers[7] is apparently a better prognostic test.

The amniotic fluid of erythroblastotic infants has been extensively investigated. Its color, its content of iron, protein, bilirubin and coproporphyrin are all abnormal in most instances.[1] The degree of staining of amniotic fluid by bilirubin measured spectrophotometrically at 400 to 450 micron is well correlated with the degree of fetal anemia when the fluid is obtained before the 34th week of pregnancy.[8] In addition to bilirubin staining, the coproporphyrin content of amniotic fluid surrounding severely anemic fetuses is elevated throughout the last trimester of pregnancy. Excessively stained amniotic fluid is associated with fetal death.[5]

Occasionally an anemic infant will have apparently normal amniotic fluid after the 36th week of pregnancy. This absence of abnormal pigments in the amniotic fluid apparently reflects lack of maximal fetal erythropoiesis. Such infants, even when not hydropic, do poorly in the newborn period despite the fact that their bilirubin levels are easily controlled.

Chorionic gonadotrophin (HCG) excretion may be increased during the third trimester in a variety of pathological conditions (preeclampsia, diabetes mellitus and erythroblastosis). A preliminary study has shown that in most instances anemic erythroblastotic infants are associated with elevated maternal HCG excretion. The normal excretion in the third trimester is only a fraction of that found in early pregnancy, but with anemic erythroblastotic fetuses Friedman tests of the mother's urine in dilutions of 1:10 or more will frequently give a positive reaction. Fortunately, the occasional anemic infant with normal amniotic fluid is likely to have a mother showing elevated HCG excretion.[4] Despite recent commentaries to the contrary,[10] there is much evidence that antenatal diagnosis of fetal anemia can be made on the basis of these tests.

THE PREVENTION OF FETAL HYDROPS

The failure of various antenatal medical treatments directed at either decreasing the number of Rh antibodies reaching the fetus or increasing fetal erythropoiesis, has limited the effective obstetrical therapy of fetal anemia to removal of the fetus from its unfavorable environment. The aim of such therapy is to deliver, before the development of hydrops, an infant who will survive. The available evidence indicates that the number of infants who would have been lost but will be salvaged by such an approach is small.

Rh isoimmunization is in general a progressive disease, in the sense that in each succeeding pregnancy the fetus is more severely affected. It is not inevitable, however, that critical illness will befall a fetus still alive at a time in pregnancy when fetal death had already occurred in a previous pregnancy, for erythroblastosis is a variable disease process even with apparently the same environmental and genetic background. In the management of a current pregnancy, therefore, the physician must not be unduly influenced by what happened to the fetus in a previous pregnancy.

Sudden deterioration of a mildly anemic fetus to a hopeless hydropic state is probably a rare event. Mollison[9] observed that there was no significant difference in cord hemoglobin levels between infants born spontaneously and those for whom early induction of labor was used.

The practice of routinely terminating a pregnancy at an earlier stage than that at which fetal death occurred in a previous pregnancy is illogical. In all probability, the previous fetus was hydropic for days to weeks before it died, and would not have been salvaged by earlier delivery. In decisions as to the time to terminate pregnancy with intent to save the infant, the hazards of a known degree of prematurity must be weighed against the hazards of an unknown degree of fetal anemia.

The overall salvage rate for Rh-positive fetuses in cases in which there is a history of previous fetal death is exceedingly low, but it is somewhat better when the fetus is alive at 33 weeks. Biering[2] observed that, in instances of previous fetal death, when the fetus is alive at the 33rd week it has two chances in three of being discharged alive from the hospital without the supposed benefit of early delivery. Reports of superior results of delivery before the 36th week of pregnancy have in general suffered from lack of suitable controls.

Assuming that the obstetrician fulfills his first obligation of detecting all sensitized pregnant women, the management of EBF consists of diagnosing the occurrence of anemia in the fetus and delivering it between the 36th and the 38th week of pregnancy. Delivery before the 36th week is of doubtful value.

An indirect Coombs titer of 1:64 or greater, or a history of previous fetal anemia or death, indicates increased probability of fetal anemia during the current pregnancy. In such cases the patient should be seen at frequent intervals after the 33rd week. The amniotic fluid and HCG excretion should be studied at this time. If these are abnormal, the pregnancy should be terminated in the 36th or 37th week.

In order to detect the maternal syndrome in its earliest form, the degree of edema formation must be carefully evaluated. In addition to the usual tests for edema, the patient's abdominal wall should be examined. An imprint of the fetoscope on the abdominal wall is almost pathognomonic of the maternal syndrome. The question of generalized pruritus must be raised at each visit. Although the fetal prognosis is virtually nil after the appearance of the syndrome, when it is clearly present the infant, unless hopelessly premature, should be delivered immediately. The presence of a questionable maternal syndrome or a history of decreased fetal movements are indications for delivery when the 36th week has been reached.

When fetal anemia is suspected, even if the amniotic fluid and HCG excretion are normal, there is no logic in allowing a pregnancy to continue beyond the 38th week. Warm heparinized compatible Rh-negative blood must be available for exchange transfusion at the moment of delivery of an infant suspected of being anemic.

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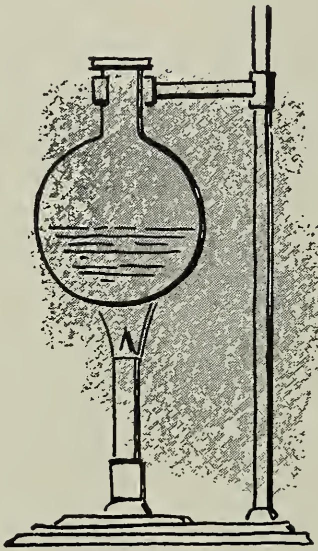

Perforated Peptic Ulcer

Selective Gastric Resection in Emergency Treatment

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• In a series of 240 cases of perforated peptic ulcer prior to 1952 there was a total mortality of 17 per cent. This included cases treated conservatively as a planned procedure or because of other morbid conditions and undiagnosed cases, all ending in death.

In cases treated by simple suture, mortality was 2.6 per cent for patients under 50 years of age and 17 per cent for those over 50, the rate rising very steeply with each decade over 50.

From 1953 through 1959 selective gastric resection was carried out, the operation being done in all cases of perforated gastric ulcers, of chronic duodenal ulcers and of perforations associated with hemorrhage.

During this period 303 perforated ulcers were treated, with a mortality of 15.5 per cent. Patients with associated morbid conditions and those admitted moribund and died, or died undiagnosed were again included.

In this series also the mortality increased steeply from age 50 onward.

Gastric resection was carried out in 148 cases of perforated peptic ulcer with a mortality of 6 per cent. In 105 cases under 60 years of age there were no deaths but in those over 60 the mortality rate was 21.8 per cent. Results in the patients who had resection, as determined after three years of observation, compared favorably with the results in patients who were treated by suture.

The mortality of perforated ulcers in females was higher than in males.

Emergency gastric resection has a definite place in the treatment of perforated peptic ulcer.

A CLINICAL RESEARCH PROJECT was carried forward in the Gastroenterological Unit of St. James' Hospital, London, to elucidate some of the causes of the very high mortality rate of perforated peptic ulcer, and to try to reduce this mortality.

The literature of the subject can be misleading in that many observers have reported series with mortality rates of 5 per cent or under. One paper actually reported no deaths in a relatively small series.

The fallacious impression created by such reports is demonstrated by the fact that when a total survey of perforated ulcers in one hospital is reported, the mortality is very much higher and leads one to conclude that the optimistic reports are of highly selective groups.

A recent paper read before the Association of Surgeons of Great Britain and Ireland reported a survey of 1,000 unselected cases of perforated ulcer at a large hospital in Birmingham, England, in which the mortality was over 20 per cent.

Our own figures have not been dissimilar; a review of 240 cases at St. James' Hospital in the period 1946-1952 showed a mortality of 17 per cent. In 173 cases of duodenal ulcer, the mortality was 11 per cent; in 59 cases of gastric ulcer, 34 per cent, and in eight cases of perforated anastomotic ulcers there were two deaths. Many of the patients were too ill for operation and in others the perforation was not discovered until autopsy.

The conventional treatment has been simple suture of the perforation with or without drainage; and, in an attempt to reduce the mortality, many centers have tried alternative methods, notably conservative treatment and emergency gastric resection. We have always been a little unhappy about conservative treatment, as we find it difficult to distinguish between the perforated gastric ulcer and the perforated duodenal ulcer, and there is general agreement that treatment of the perforated gastric ulcer by this means is not satisfactory. Furthermore, we have been worried about the possibility of not diagnosing the perforation of some other hollow viscus or other causes of peritonitis such as gangrenous appendicitis and acute intestinal obstruction. However, in 1946 we made a short trial of conservative treatment and must admit that our experience was perhaps unfortunate, particularly in view of the better results reported of other investigators. There were 12 cases and five deaths—three of ten patients with duodenal ulcer and both of two with gastric ulcers. We abandoned the method.

Nevertheless there are certain cases in which conservative treatment offers the best hope of recovery. I refer to cases, especially in old people, in which the perforation complicates the course of some other very serious illness such as advanced malignant disease, gross senility and gross cardiac failure. Amongst the 240 cases referred to, there

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were six such cases, three of the patients having duodenal and three gastric ulcer. Two of the latter and one of the former lived.

A study of mortality must also take into account the patients who are admitted moribund and who die shortly after admission, and also those who die in a medical ward, the perforated ulcer being discovered only at autopsy. There were 14 of that order amongst the 240 patients in the 1946-1952 group. Five had duodenal, seven gastric and two anastomotic ulcers.

Of the 240 patients, 208 were treated by simple suture. There were 19 deaths, a mortality of 9.1 per cent. Seventy-three patients had perforated acute ulcers, and none of them died. Eighty-two had chronic duodenal ulcers, with a mortality of 11 per cent, and 47 had gastric ulcers, with a mortality of 21 per cent. Six with perforated anastomotic ulcers all survived.

Data on mortality related to age of patients in the group treated by simple suture are shown in the following table:

Age in Years	Number Patients	Deaths	Mortality (Per Cent)	Ratio of Gastric to Duodenal Ulcer
0 to 20	1	----	----	----
20 to 30	24	----	----	1:7
30 to 40	39	1	2.6	1:3
40 to 50	50	2	4.0	1:4
50 to 60	42	3	7.0	1:4
60 to 70	33	5	15.0	1:1.5
70 to 80	16	6	37.0	1:1.5
Over 80	3	2	66.0	1:5.1

Both the mortality rate and the ratio of gastric ulcers to duodenal ulcers increased with the age of the patients.

The conclusions reached from this analysis were as follows:

1. Simple suture of perforated acute duodenal ulcer at any age was a completely satisfactory method of treatment.

2. Simple suture of the perforated chronic duodenal ulcer was associated with a mortality of 11 per cent and was by no means satisfactory. Simple suture in chronic ulcers in patients under the age of 50 years was reasonably satisfactory, but in patients older than that was associated with a high mortality.

3. Simple suture of perforated gastric ulcer was associated with a mortality nearly four times that for duodenal ulcers.

Further factors came to light in our studies.

1. Three patients not included in this series had presumably simple gastric ulcers treated by simple suture and the ulcers were subsequently found to be malignant.

2. Seven cases of perforated carcinoma of the stomach were treated by gastrectomy, with four deaths.

3. The association of perforation and hemorrhage may be of three orders:

- Perforation treated conservatively or by simple suture, with the occurrence of hemorrhage during recovery. Such cases we deal with essentially as gastroduodenal hemorrhage and reoperate if conservative treatment of the hemorrhage fails.
- Hemorrhage in which perforation occurs during conservative treatment. These are treated essentially as a perforation by operation.
- Simultaneous hemorrhage and perforation. There were seven such cases in this series. All were treated by gastrectomy and there were two deaths.

There is general agreement that the longer the period between perforation and treatment, especially after 12 hours, the higher the mortality.

In 1953 we decided on the basis of our experience to use emergency gastric resection in certain selected cases of perforation:

- In all cases of perforated gastric ulcers.
- In all patients over 50 years of age with perforated chronic duodenal ulcers—that is, with an "ulcer history" of at least six months or obvious evidence of chronicity at operation. Frequently a short history was associated with a large penetrating ulcer.
- In all patients under 50 years of age with perforated chronic duodenal ulcers and "ulcer history" of a year or more.
- In all cases of perforated gastric carcinoma.
- In all cases of perforations associated with hemorrhage.

As to perforated anastomotic ulcers, owing to the possible complexities of gastric resection and in view of the satisfactory results up to this time with simple suture, we elected to continue as before.

Perforations in the aged are increasing and present a difficult problem. We decided to lay down no hard and fast rules for such circumstances, but to deal with each case on its merits with perhaps a bias toward simple suture, especially where some other serious disease was also a factor.

We applied the foregoing criteria in 303 cases of perforated peptic ulcer and seven cases of perforated gastric carcinoma in the period 1953-1959. The results were as follows (with the mortality rates from the earlier series shown in parentheses for purposes of comparison):

	Duodenal Ulcer	Gastric Ulcer	Anastomotic Ulcer	Total
No. of cases	256	37	10	303
Deaths	32	13	2	47
Mortality (per cent)	12.5 (11.0)	35.0 (34.0)	20.0 (25.0)	15.5 (17.0)

TABLE 1.—*Moribund and Undiagnosed Cases, 1953-59*

	Duodenal Ulcer	Gastric Ulcer	Total
No. of cases	8	5	13
Deaths	8	5	13
Mortality (per cent)	100.0	100.0	100.0

TABLE 2.—*Treated Conservatively Because of Other Morbid Conditions, 1953-59*

	Duodenal Ulcer	Gastric Ulcer	Total
No. of cases	5	3	8
Deaths	2	3	5
Mortality (per cent)	40.0	100.0	62.5

TABLE 3.—*Results in 282 Cases Treated Surgically, 1953-59*

	Duodenal Ulcer		Gastric Ulcer	Anastomotic Ulcer	Total
	Acute	Chronic			
No. of cases	71	174	28	9	282
Deaths	0	25	5	2	32
Mortality (per cent)	0	14.4	18.0	22.0	11.3
	(0)*	(11.0)*	(21.0)*	(0)*	(9.1)*

*Mortality of 1946-52 series.

It would seem at first that our results showed no improvement whatever. However, various factors in the data are analyzed in the tables that follow. Once more we were faced with the "inevitable mortality" factor—that is, the patients who were moribund on admittance or died of undiagnosed perforated ulcer (Table 1).

Eight patients were treated conservatively because of advanced age or other serious morbid conditions and only three survived (Table 2).

Two hundred and eighty-two patients were treated surgically by simple suture or resection. The results in these cases are shown in Table 3.

An age analysis of this series of 282 cases is shown in Table 4.

Sixty-two and one-half per cent of patients were over 50 and for them the mortality rate was 17 per cent, the same as for that age group in the earlier series; 37.5 per cent were under 50 and mortality was 1 per cent.

In comparing the two series, two statistical factors are especially important: The proportion of cases of acute duodenal ulcer, for in these there was no mortality; and the age groups of the series. These factors are compared in Table 5.

There were 10 per cent fewer cases of acute duodenal ulcer in the second series and 17.7 per cent more patients over 50 years old. In spite of this, there was very little difference in the mortality rate of the two series.

That we are dealing with an aging population is shown in Chart 1.

TABLE 4.—*Age Groups of All Patients Treated Surgically, 1953-59*

Age in Years	Number Patients	Deaths	Mortality (Per Cent)	Mortality 1946-52 (Per Cent)
0 to 20	4	----	----	----
20 to 30	20	----	----	----
30 to 40	28	----	----	2.6
40 to 50	53	1	2.0	4.0
50 to 60	71	2	2.8	7.0
60 to 70	53	8	15.0	15.0
70 to 80	40	15	37.0	37.0
Over 80	13	6	46.0	66.0

TABLE 5.—*Proportions of Acute Duodenal Ulcer and of Patients Over 50 Years of Age in Two Series*

	Acute Duodenal Ulcer (Per Cent)	Over 50 (Per Cent)	Over 60 (Per Cent)
Proportion in 1946-52	35.0	45.0	25.0
Mortality	0	17.0	25.0
Proportion in 1953-59	25.0	62.5	38.0
Mortality	0	17.0	27.0

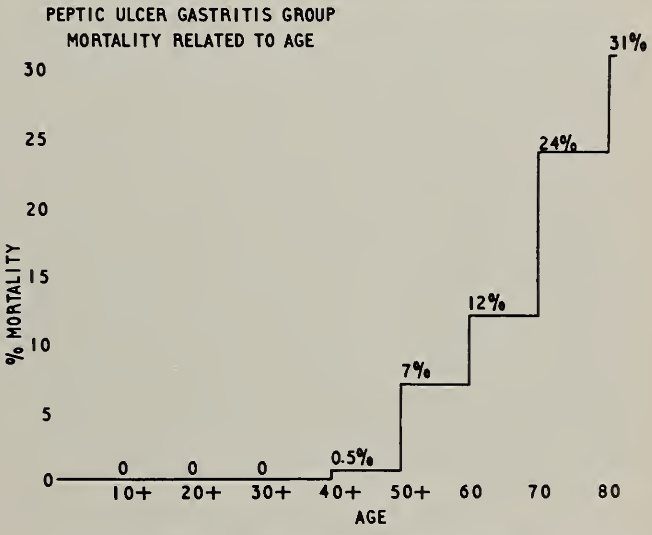

Chart 1.—Age groups of patients in two series, one before 1953, the other in the years 1953-1959, treated surgically for gastroduodenal ulcer.

Forty-two patients with chronic ulcers in the 1953-1959 series of 282 cases were treated by simple suture because of age or associated morbid conditions. The results are shown in Table 6.

The high mortality may be attributable to the poor general condition of some of the patients. Many of them could perhaps have been treated conservatively, an aspect of the problem that we are now looking into.

There were nine cases of perforated anastomotic ulcer (Table 7). Two of the patients died. Both were more than 75 years old. One patient was treated successfully by gastrectomy because it was the third time his stomal ulcer had perforated and he persisted in refusing definitive operation between the incidents of perforation. However, the numbers are too small to draw any satisfactory conclusions.

There were 19 cases of simultaneous perforation and hemorrhage with a mortality of 37 per cent (Table 8). Five patients were treated by suture because they were considered too old and ill to withstand gastrectomy; two of them died. Two others were moribund on admission. Twelve were treated by resection (Table 9).

One hundred and forty-eight cases of uncomplicated perforated ulcers were treated by emergency gastric resection. There were nine deaths, a mortality of 6 per cent. The mortality in 127 cases of duodenal ulcer was 4.7 per cent, in 20 cases of gastric ulcer, 15 per cent. One patient had an anastomotic ulcer. He survived.

Although the word *uncomplicated* is used here, a number of the patients were in advanced shock on admission, with no recordable blood pressure, and often in peripheral circulatory failure.

We are firmly convinced that, if at all possible, the moribund patient should be treated by gastrectomy. The recovery in general condition, first, after thoroughly cleaning the peritoneal cavity, and second, after disconnecting the ulcer from the organ or organs into which it has penetrated, is most dramatic and we are certain that we have saved many lives by adopting this bold approach. Unfortunately, many other such patients die within a short time of admission and before we can operate.

Table 10 shows an age analysis of 160 gastrectomy patients (including the 12 in which perforation was associated with hemorrhage). None of the patients under 60 years of age died even though in 11 cases more than 12 hours had elapsed between perforation and admission to hospital.

In the 12 cases in which the patient died after gastrectomy, the causes were as follows:

	No. Cases	Age of Patient	Ulcer Site
Associated with hemorrhage	3	73	Gastric
		69	Duodenal
		73	Duodenal
Upper partial gastrectomy for perforated gastric ulcer in hiatus hernia (chest infection)	1	74	Gastric
Volvulus of sigmoid	1	64	Duodenal
Refused operation until fifth day	1	76	Duodenal
Giant gastric ulcer (chest infection)	1	86	Gastric
Giant gastric ulcer (peritonitis)	1	60	Gastric
Coronary thrombosis	1	79	Duodenal
Chest infection in maniacal patient	1	69	Duodenal
Staphylococcal enterocolitis	1	66	Duodenal
Multiple lung abscesses	1	76	Duodenal

The patient with perforated gastric ulcer in the hiatus hernia presented a formidable problem. Both pleurae and the pericardium were involved. I think if I had to deal with such a case again, I would simply drain the area and perform a temporary feeding jejunostomy. There was, in this instance, no anastomotic leak but the opening of both pleurae and the development of bilateral empyema were overwhelming in a patient of 74 and she died on the eighth postoperative day.

TABLE 6.—*Treated by Simple Suture Because of Age and Other Morbidity, 1953-59*

	Chronic Duodenal Ulcer	Gastric Ulcer	Total
No. of cases	36	6	42
Deaths	17	1	18
Mortality (per cent)	47.0	17.0	43.0

TABLE 7.—*Perforated Anastomotic Ulcer, 1953-59*

	Treatment		
	Suture	Gastrectomy	Total
No. of cases	8	1	9
Deaths	2	....	2

TABLE 8.—*Simultaneous Perforation and Hemorrhage, 1953-59*

	Duodenal Ulcer	Gastric Ulcer	Total
No. of cases	15	4	19
Deaths	4	3	7
Mortality (per cent)	26.7	75.0	37.0

TABLE 9.—*Simultaneous Perforation and Hemorrhage Treated by Gastrectomy, 1953-59*

	Duodenal Ulcer	Gastric Ulcer	Total
No. of cases	10	2	12
Deaths	2	1	3
Mortality (per cent)	20.0	50.0	25.0

TABLE 10.—*Age Groups of Patients Treated by Gastrectomy, 1953-59*

Age in Years	Number Patients	Deaths	Mortality (Per Cent)
20 to 30	7	....	....
30 to 40	17	....	....
40 to 50	27	....	....
50 to 60	54	....	....
60 to 70	34	5	14.7
70 to 80	18	6	33.3
Over 80	3	1	33.3

Mortality under 60, nil. Over 60, 21.8 per cent.

The volvulus of the sigmoid occurred on the eleventh postoperative day and a gangrenous colon was resected with fatal result. The giant gastric ulcers both involved the whole of the posterior wall of the lesser sac and penetrated the spleen and diaphragm. One patient, a general paralytic, became uncontrollably maniacal and died from peritonitis and a severe chest infection.

Although superficial wound infection occurred as much in association with gastrectomy as with simple suture, there was only one residual pelvic abscess in the gastrectomy cases, and in those treated by simple suture there were two subphrenic and five pelvic abscesses. Chest complications were more or less equally distributed.

In five of the simple suture cases there was severe bleeding from the ulcer postoperatively, two needing urgent gastric resection. Staphylococcal enterocolitis caused one death following gastrectomy, none following simple suture.

There is no doubt that some of the bad results of gastrectomy, especially the dumping syndrome, are due very largely to faulty selection. When resection is performed as an emergency, selection of course is foregone. It is therefore important to examine late results in this series. Of 82 patients who had had gastrectomy three years or more before the time of this appraisal, 65 were available for questioning, six having died of unrelated causes and 11 untraced. Of the remaining 65 patients, 60 (92.3 per cent) were satisfied with the results of the operation. Anastomotic ulcers developed in three patients, one of whom later had a revision of the gastrectomy, the other two doing well with conservative treatment.

Severe postgastrectomy syndrome developed in two cases. One had bilious vomiting which was relieved by conversion to a Roux-en-Y anastomosis. The other was a troublesome case of dumping which responded moderately well to a conversion from a Polya to a Billroth I operation.

These results compare well with our results in non-emergency ("cold") resection. The stomal ulcer rate is higher but the percentage of postgastrectomy syndromes is considerably lower.

The mortality of perforated ulcer was higher in females than in males (Table 11) and the cause for this is a little obscure.

TABLE 11.—*Comparison of Mortality in Males and Females Surgically Treated for Perforated Peptic Ulcer, 1953-59*

	All Cases		Gastrectomy	
	Females	Males	Females	Males
Number of patients	38	244	20	140
Deaths	6	26	2	10
Mortality (per cent)	16.0	10.6	10.0	7.0
Age groups:				
Under 60 years	18	158	9	96
Mortality (per cent)	0	1.9	0	0
Over 60 years	20	86	11	44
Mortality (per cent)	30.0	26.7	18.0	22.7

DIAGNOSIS

The diagnosis of a perforated ulcer in the early stages presents no particularly difficult problem and in most cases confirmation is obtained by finding subdiaphragmatic gas in a plain x-ray film of the abdomen. However, late perforation with established peritonitis is more difficult, especially in its distinction from gangrenous appendicitis, perforated cholecystitis, perforated diverticulitis and late intestinal obstruction, so that operation is sometimes in the nature of an exploratory laparotomy. The quiet perforation of an ulcer in an otherwise seriously ill patient—for example, with cardiac failure, acute chest infection or advanced malignant disease—is often in our experience completely missed and only discovered at postmortem examination. A considerable number of the fatal cases herein reported were of that order, but we feel they should be included in computing mortality. Perforation in a patient in hospital under treatment for an ulcer is a well known pons asinorum. I well remember many years ago a theater porter who had perforation while on duty. He was taken straight into the operating theater, the ulcer was sutured and he was dead of shock, within 24 hours.

A reasonable time devoted to resuscitation, to correction of anemia and of imbalance in chemical components of the blood and to gastric suction, is never time wasted, and we invariably take an hour or two for such measures in all cases.

ANESTHESIA

In the beginning of this series, we used local anesthesia alone for the seriously ill patients; but with advances in anesthesia, especially the use of relaxants, we have used local anesthesia less and less, and now employ it only if the patient is old or has severe cardiac or respiratory disease.

Bronchoscopic suction at the end of the operation we have found of the utmost value in reducing chest complications in these relatively unprepared patients.

TECHNICAL POINTS

In performing an urgent gastric resection for perforated ulcer we have found that a complete and thorough toilet of the peritoneum is of paramount importance. The improvement in the patient's general condition is often most remarkable.

The technical difficulties differ not at all from those in "cold" gastric operations; often mobilization of the duodenum is easier but where there is a large duodenal or gastric ulcer, the surrounding edema may make the operation more difficult. In such cases, we have found that after dissecting the viscus as far as possible, a bold opening of a duodenal ulcer by increasing the size of the perforation will permit insertion of a finger into the duodenum and make the remainder of the dissection considerably easier.

In gastric ulcers penetrating the posterior abdominal wall, the stomach is boldly separated, leaving the ulcer base behind, and the resulting hole in the stomach is closed, thus rendering the further mobilization much easier. In gastric ulcers we complete the operation by the Billroth I technique, and in duodenal ulcers we use a valved Polya type of operation.

The postoperative care differs very little from routine, and it is remarkable how smoothly patients recover from gastrectomy as compared with simple suture—and how much easier for the nursing staff to care for.

Operating for a perforated peptic ulcer is primarily to save life; but if primary gastric resection is a safe procedure, we are ridding the patient of ulcer. In this respect we have found that when a perforated chronic duodenal ulcer is treated by simple suture, at least 50 per cent of the patients require further operation for the ulcer and a further 20 per cent continue to have symptoms necessitating prolonged regulation of diet and alkalinization. Eighty-five per cent of the patients operated on for perforated acute duodenal ulcers had no further trouble in five years.

More than 70 per cent of patients treated by simple suture for perforated ulcer continue to have symptoms referable to ulcer.

During the seven-year period 1953-59, seven cases of perforated carcinoma of the stomach were encountered, with four deaths. Only three were operable and all three patients survived resection. However, in two of these cases the ulcer was thought to be benign at the time of operation, malignant change not being noted until histological examination of the resected ulcer. One patient survived three years and the other five years in spite of the fact that a radical gastrectomy with gland field clearance was not performed. This we feel is a very strong argument in favor of primary resection in all cases of perforated gastric ulcers. We further feel that when a perforated gastric carcinoma is opened as an emergency, a radical procedure is justifiable. In the one case in which this was done, the patient survived two years and died of carcinomatosis peritonei. The explanation of the long survival in the other two patients may be that they had carcinoma in situ in a chronic gastric ulcer, and we know that the prognosis in such cases is far better than in the de novo carcinomata.

CONCLUSIONS

What conclusions are we able to draw from this study? There are certain definite ones as follows:

1. The treatment of perforated acute duodenal ulcer should be by simple suture.

2. There is every justification for performing emergency gastric resection for perforated chronic duodenal ulcer in patients under 60 years of age, for in our series there was no mortality and a good late result, so that the patient was rid of the lesion without having to undergo a second major operation.

3. The correct treatment of a perforated gastric ulcer is by resection, because there has been no increase in mortality and there is very real possibility that the ulcer may be malignant.

4. That perforation of ulcers in persons over 60 years old is a highly lethal disease and a more radical approach to the problem of peptic ulcer in general over this age is justifiable. With increasing experience we are resecting more perforated ulcers in the aged and our results are encouraging. Age itself does not contraindicate such a procedure, but the association of other morbid conditions probably does.

5. A more radical approach in old persons is suggested. In spite of resorting to the apparently more severe operation, the overall mortality remained the same and some of these elderly patients have been rid of their disease and its attendant risks of further perforation, hemorrhage and subsequent operations.

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Psychotherapy

A Concept for the Nonpsychiatric Physician

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• Patients tend to repeat with their physician, as with other significant people in their lives, their earlier previous patterns of behavior. The physician as well as the patient is involved in the physician-patient relationship. He will tend to respond to his patients in accordance with *his* earlier life experiences and *his* characteristic repetitive behavioral pattern. For both physician and patient, the relationship between them extends beyond the immediate reality situation.

Psychotherapy is the utilization of psychological measures in the treatment of sick persons and the deliberate utilization by the physician of the physician-patient relationship for the benefit of the patient. The kind of psychotherapy that is practical and utilizable by the nonpsychiatric physician is that which uses education, reassurance, support and the management of the patient's problems either directly or indirectly or through the intermediary of other people or agencies.

The symbolic aspect of the physician-patient relationship is based essentially on the fact that a sick person, because of his anxiety and because of the threat to his physical and psychic integrity, is more dependent and more anxious than he would be if he were well, and therefore he has a correspondingly greater need for the authoritative and protective figure he finds in the physician.

Psychotherapy is not directed exclusively to the treatment of flagrantly or obviously neurotic or psychotic patients. It should be and is directed to all sick persons. Limitations in psychotherapy are set by various determinants, among which are the nature of the precipitating factor in the illness, the nature of the sick person, the skill, knowledge and abilities of the physician, and the nature of the physician-patient relationship. In psychotherapy, as in all medicine, the physician should not do anything which may disturb the patient if the disturbance is of no value or if it cannot be followed through with special skills.

THE AIM OF THIS ARTICLE is principally to present a point of view in the approach to the patient, not just the psychiatric patient, and in indicating to a degree what the basic forces are underlying the physician-patient relationship and how these may be deliberately rather than accidentally or adventitiously used to foster the art and science of medicine in the interests of patient evaluation and treatment.

An individual tends to repeat throughout life the patterns of behavior he has laid down in childhood. His relationship to his mother, father, teacher—whether it be that of love or of fear—determines what kind of relationships he will later have, in situations that carry similar implications.

There are always two aspects to a patient-physician relationship. Most of the time we see only one of these—the positive. Much can be accomplished on this basis, for the patient is likely to take advice and to accept suggestions. When the patient develops negative attitudes toward us, we may tend to take them even more personally than the positive ones. If, however, we search for the basis of hostile reactions, we usually find that patients are merely repeating with the physician their earlier previous patterns of behavior. However, we cannot say that whenever a patient becomes angry with us, or hostile, or thinks we are incompetent, it is always and only the reflection of a characteristic pattern. Sometimes the patient is right. But even in reality situations, there is a certain amount of projection onto the physician of hostile attitudes, stemming from earlier experiences.

Generally, physicians can all handle a patient's positive feelings, and use them consciously or unconsciously. But when it comes to the negative expression of feelings from patients, many physicians become somewhat angry, whether they recognize it or not, and may try to get rid of those particular patients. If, however, the physician understands that when hostility is shown to him, or certain negative feelings appear (a patient may break an appointment or not follow directions as a subtle way of showing hostility) and when he understands that at least part of this hostility is not directed against him personally, then the attitude may become easier to cope with.

It must be borne in mind that the physician as well as the patient is involved in the physician-patient relationship. Present in the interaction is the personality of the physician himself—certain of his own character traits, attitudes and responses. It is extremely important for the physician to recognize this. Not every physician has to analyze himself to find out what makes him respond as he does, but he

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does have to know what kinds of relationships he usually tends to form with his patients.

When we come to explaining why patients lose their symptoms—that is, "get well"—generally it is the physician-patient relationship that is one of the significant factors, and not necessarily the kind of medicine we use or even the kind of psychotherapy we use. It may be how we use the medicine or psychotherapy that is important. This is not only true of the patient who is psychoneurotic or otherwise psychically ill, it is just as true of the patient with renal disease or a fractured hip. Hence the patient-physician relationship is not something that concerns only emotionally disturbed persons.

It is important to understand that completely opposite emotions or attitudes may achieve gratification by exactly the same actions. Staying sick may achieve a different objective for each particular patient. One patient may stay in bed because she has a positive attachment to the physician and this is the only way she can see him; or she may feel so negatively about him that this is the only way she can pay him back—by not getting well.

The ability to talk freely to the patient has therapeutic value for him. It indicates to the patient that he doesn't have to keep his emotions submerged. All emotions, including hostilities and aggression, are part and parcel of normal development. Their intensity, their quality, the kind of events that activate them, which of them are inhibited—these are the elements that determine pathogenesis, rather than the emotions themselves.

The nature of the human condition is such that difficult, complex situations are bound to arise. The important thing is that the patient handle this in such a way that the conflict or difficulty is responded to in a fashion which does not lead him to have persistent, nonpurposive, nonadaptive, unrealistic reactions.

The ability of the physician to listen is also important. People have a great need to unburden themselves. If they go from physician to physician and nobody gives them an opportunity to talk, then they may keep shopping around. That is not the only reason they may shop around. Some patients may want to find a diagnosis which suits them and will shop around until they find a physician who gives them what they want. Not all shop for the same reasons. To a significant extent, a patient hopes to get from the physician what he has not been able to get from anyone else; the irrational, magical element in the relationship is present and is best recognized by the physician.

A simple and realistic definition of psychotherapy is that it is the utilization of psychological measures in the treatment of sick people. The variations of psychotherapy are of two great types. The purpose of one type is to allay anxiety, to reassure, to bring about certain changes in the environment which may help to minimize the intensity of the detrimental elements present for the patient. The other type is sometimes called the uncovering type; it uses methods and techniques which aim at finding out some of the hidden motivations for the behavior, as they relate to inner psychic forces, which may come into conflict with parts of the personality or the sociocultural environment.

It is generally accepted that the first type, in which use is made of education, reassurance, support and management of the patient's problems either directly or indirectly or through the intermediary of other people or agencies, is the kind that is practical for nonpsychiatric physicians.

It cannot be repeated too often that the fundamental basis of all psychotherapy consists of the physician-patient relationship. The traditional and conventional physician-patient relationship is a combination of certain reality factors and certain symbolic factors. Realistically, the physician is a skilled person, a person with special knowledge, a person to whom one goes for help because of his experience and skill and because of his special knowledge. Symbolically, the physician represents something besides this realistic figure of a man with special skills and knowledge. The symbolic aspect of the relationship is based essentially on the fact that a sick person, because of his anxiety and because of the threat to his physical and psychic integrity, is more dependent and more anxious than he would be if he were well, and therefore he has a correspondingly greater need for the authoritative and protective figure he finds in the physician. Knowledge and understanding and deliberate utilization of the basic factors of the physician-patient relationship are the crux of all psychotherapy.

AIMS OF PSYCHOTHERAPY

What are the aims of psychotherapy? Many of the aims we speak of are complementary and overlapping. The aim may be to relieve symptoms or to promote a cure. It may be to increase the efficiency of a person in his daily life. It may be to increase his happiness. It may be to help him accept more realistically certain irreversible disabilities or conditions. It may be to enable the person to see more clearly some forces which he has not been aware of before, to help him bring them more closely to consciousness, to his awareness, so that he may deal less unrealistically, less impulsively, more consciously and more satisfactorily with the issues before him.

Which types of patients should receive psychotherapy? All sick people should receive and do receive to a greater or lesser extent some kind of psychotherapy. Psychotherapy is not directed exclusively to the treatment of flagrantly or obviously neurotic or psychotic patients. Psychotherapy should be and is directed to a great number of people who are experiencing many normal degrees of anxiety and distress, in the course of an illness, in the normal problems of convalescence, in chronic disease and disability, or after surgical intervention of one kind or another. The area of psychotherapy is extremely wide. For those who are sick primarily as a result of certain emotional forces, however, certain types of psychotherapy are used more or less specifically.

LIMITS OF PSYCHOTHERAPY

What are the limitations of psychotherapy? In the pursuit of medicine, we all know that our therapeutic goals may sometimes have to be quite modest. With some patients, one can help to bring about a cure that not only relieves the symptoms but leaves no residual disturbances. With others, we may just be able to modify the symptoms or decrease their intensity to a certain degree, so as to make life more endurable. It may be possible to minimize certain external or provoking factors so that the progress of the condition may be more mild. Then there are patients for whom the only thing one can do is to give them some degree of security and confidence (for a condition which may be irreversible), to allay anxiety and pain. And there are some whom we cannot help at all.

Similarly, in psychotherapy, limitations are set by various determinants. One limiting determinant is the acuteness or chronicity of the present illness. Another is the nature of the precipitating factor, its intensity and the reality of the problem the patient faces. For example, grief which is naturally experienced after the death of a loved one is a realistic, understandable, normal psychological experience. However, a depression simulating grief may appear with no demonstrable or external realistic factor to provoke it; it may have symptoms with a few exceptions similar to those of grief, but the structure and the meaningfulness and the prognostic factors in the depression are quite different from those of a normal grief reaction. So the reality of the precipitating factor, its intensity and its acuteness are determining factors, as is the setting and timing of the precipitating event. So it is in all illness.

The second determinant limiting psychotherapy is the nature of the individual who is sick. How flexible is he? How emotionally healthy is he or has he been in the past? How adequate has he been in accepting the normal day by day deprivations and frustrations that all of us have to face in the world? How satisfactory has his adjustment been? What has the level of his achievement been? What type of psychological defenses has he had to use in his life? Has he exaggerated these defenses? Has he inhibited himself too much? Has he become too passive, too submissive, too quiet, too restrained? Is he unable to express even the normal degree of aggression, the normal degree of hostile feelings toward his friends and acquaintances and family? Or is he withdrawn or unable to be normally affectionate or unable to engage in normal physical sexuality?

On the other hand, is he a person who seems to have too little control? Is he a person who is very impulsive and acts everything out, without any checks or proper inhibitions—as if he were without conscience? So the nature of the person is another limiting factor.

The third limiting factor lies in the skill and knowledge and abilities of the physician—what range he has in understanding, and in his ability to follow through his understanding of the patient's problems.

Finally, and probably most important, is again the nature of the physician-patient relationship. What capacity has the patient, what capacity has the physician, to engage in this mutual reciprocal human interaction so that it can become a meaningful and productive relationship, one in which the physician may help the patient mobilize his resources and aid him either to discharge and sometimes resolve certain emotions, or to utilize other means of defense that may prove more effective and satisfactory than those he has been using.

So much for the aims and the limitations. Let us now consider some of the techniques available to general physicians. These for the most part have as their core the use of reassurance, the allaying of anxiety, the deliberate utilization of the physician-patient relationship to give support and security, the manipulation of environmental factors to minimize disturbing elements, and so on. This last method mentioned could be called environmental management, the ordering of certain aspects of the patient's external living situation. The goal is to make this as pleasant as possible (although we do know that in adult life and in adult neurosis most of the problems come from within a person rather than without). For example, in problems relating to a person's behavior in industry, it may be possible to confer with the employer or utilize intermediary persons such as a social worker; in rural communities, a visiting nurse or county health officials or social workers from county welfare organizations. The essential principle is to try to alter certain aspects of the environment through explanations, through guidance, through suggestions, through various key people, whether they be school teachers, employers or members of the family.

Another method employs education. This makes use of explanation—of explaining matters to the patient, of giving advice. Most times, explanation and advice should be restricted to the current situation. We all know there is danger in giving advice too early or too dogmatically, but it may be possible for the physician to clear up certain misconceptions by explanation. There is a good deal of misinformation concerning health and disease being disseminated to the public today. With it is being spread information which is not incorrect but which mobilizes the anxieties of patients about nutrition, disease and emotions. So the physician has the right and the duty to explain certain misconceptions and misconstructions.

Another type of therapy usable in general practice is what may be called supportive therapy. The physical examination plays a part in this. It has considerable importance as a means of acquiring data concerning the emotional structure and the emotional problems of the patient. The degree of anxiety, the amount of sweating, flushing, blanching, exaggerated modesty, muscle tension, tremor and many other similar conditions may be noted during the examination. The physical examination may be utilized also as a means of reassurance. Procedures should be explained clearly and simply to the patient. Prolonged examinations and prolonged ancillary laboratory tests should be avoided, for they keep the patient stewing in the juice of his own anxiety for a long time, and may add an iatrogenic element to the illness. The physician should avoid telling the patient about insignificant data which have no relevance to the problem at hand—a minimal functional cardiac murmur, an unimportant anomaly, the this or that, or the laboratory data which seem to have no significance. This requires the ability of the physician to commit himself—to abstain from a neurotic compulsive search for an unrealistic certainty, and to not resort to unnecessary tests that may allay *his* anxiety but not the patient's.

Because of the nature of their medical training, physicians may make the mistake of submitting the patient to too many things at one time in the interest of thoroughness. Medical students are taught that a physical examination is not complete unless it goes from head to foot. Nevertheless, there may be times and places and ways in which this may be inappropriate. The kind of thoroughness that consists of an unintelligently routinized, compulsive approach merely because the doing of certain procedures makes it appear thorough, without reference to the possible impact this approach may have on the patient as a whole, may be harmful.

Thus the physician needs an awareness of the significance of the physical examination in order to utilize it constructively and directly as a means of helping the patient. He needs some awareness of the normal range of modesty and anxiety—for example, of the woman who is having a pelvic examination, or of the adolescent boy who is afraid that his masturbation may result in rotting his brain.

Several kinds of psychotherapy may be carried on at the same time. One may give drugs concomitantly with psychotherapy, perhaps digitalis or penicillin or perhaps a sedative or a tranquilizer.

Another method of use to general physicians is the interview. We have spoken of manipulative, educational and supportive therapy. We speak now of the relief of emotional tension. The interview is certainly one of the principal means by which the patient can discharge some of his pent-up feelings; can at times with the help of the physician see more clearly the origin of those feelings and ways to correct them, and in so doing get some relief and perhaps even resolve the source of the tension. Whether this be called ventilation or catharsis or given other names doesn't matter; essentially through the interview, the patient is able to discharge some tension and get some emotional relief. One can use work or occupational or recreational therapy as a means of relieving tension also.

PRINCIPLES

With respect to principles, one is that generally it is wiser to err in omission than in commission. If one has a fairly good idea that the problem is reasonably well-compensated and the patient has made a pretty good adjustment to his difficulties, it is much wiser to let him alone or to deal with him in a superficially protective and supportive way.

The second principle for the nonpsychiatric physician to follow is to keep to elements that the patient himself is aware of—"conscious" material—and not to utilize uncovering techniques unless he knows what to do with the "unconscious" material when it appears. The recognition of the existence of unconscious sources by the physician does not necessarily mean that he should uncover them or deal with them. It is not necessary to do a psychic craniotomy if a more superficial examination will suffice to show what is going on.

The third principle is that it is unwise to provoke anxiety in a patient if the provocation of that anxiety has little purpose or value or meaning at the time, or if there is no means of utilizing constructively the provoked anxiety in order to see more clearly a problem which is deep or hidden.

Next, judgmental dictates should be avoided, as should prejudicial, dictatorial attitudes. The physician must not act in an accusatory way. He is not a prosecutor, although he may be both parent and priest. He should try to avoid swings of the pendulum—to avoid being sentimental, but on the other hand he should also avoid being punitive or moralistic. A physician must be neutrally objective but he must try at the same time to be warm, understanding and accepting. It does not mean that he should identify blindly with the patient and lose his objectivity. When in doubt, it is wise to keep quiet. In psychotherapy, as in all medicine, we should not do anything that may disturb the patient, if the disturbance is of no value or if it cannot be followed through with special skills. For example, telling a patient that her habit of scratching represents a symbolic attack or a self-destructive maneuver is a harsh indictment that could provoke considerable distress. Naive confrontation is the most frequent mistake of the inexperienced psychiatrist and the well-intentioned nonpsychiatric physician who has read psychodynamic theory without having considerable training in its procedures. Superficial confrontation or disclosure which merely describes the patient to himself without long and persevering preparation, inevitably precipitates resentment and mobilizes defenses. Premature confrontations which reach to deeper levels, challenging the patient to recognize some of his deeper fears, desires and hates, may either be rejected as far-fetched or else may precipitate the patient to terror, guilt or depression. A physician must never force a patient to learn a painful psychic fact about himself until the physician is in a position to explain its origin in the patient's history and its function in his present life. The physician must also know the patient well enough to ascertain that he can handle this knowledge about himself without detrimental effects. This may take painstaking exploration over many months and is a method best confined to the psychiatrist. Argument may be as dangerous as confrontation. The only safe thing to do is for the physician to listen until he understands enough about the patient to be in a position to relate what he says and does to his unconscious psychological processes as well as his conscious ones.

It is important for the physician to understand that no matter what the past of the patient, that past has not completely or irrevocably shaped him, and it is not necessary to diagnose and classify a patient psychiatrically in any ultimate sense. All patients have some degree of potential for additional psychic growth and development.

When a sick person comes to the office seeking help, he is a different person from the one he is outside the office. The relationship that exists between him and the physician is pervaded by an emotional nexus which is different from almost anything which he experiences in life outside this special situation and his early childhood. The adequate utilization of the dynamic forces existing in this situation makes treatment possible, makes effective the dyadic interplay which in ordinary circumstances would have little influence upon the life of the patient. This is a vital point to understand. The physician-patient relationship is as important as the catalytic agent in a chemical reaction. Thus, generally, what the physician does with the patient will not be well done unless the relationship between the two is good.

Effective psychotherapy does one thing always: It helps the individual to master previously unmastered conflicts or experiences in one or more areas. Again the catalytic agent through which this is effected is the emotional relationship which develops when the patient knows that he is going to be treated by an understanding, kindly and mature person. The word *mature* is really of the essence here. One definition of psychotherapy might be that it is a situation between two individuals, in which one of them, hopefully the physician or therapist, is the more mature one and thereby acts as a catalyst to set in motion whatever capacities for greater growth and maturity the patient may have. We can define "maturity" in a practical rather than metaphysical fashion by saying that it is true realization and activation by the patient that new patterns of behavior and conduct are preferable to the old ones and will result in greater over-all satisfaction for all concerned.

COPING WITH OVER-EXPECTATION

As the physician continues to treat the patient, he may find that the patient will more and more assume toward him the attitude of a child toward his parents. The expectancy which the patient will have in relation to the physician will often become, in a sense, childlike. Much more will be expected of him than he can realistically give. Then, when the patient does not get what his phantasies have led him to expect, he may become somewhat aggressive and hostile, just as do children when they have something done to them that they don't like, or have something taken away from them that they want—they become angry, and are apt to express their anger toward the parent either directly in terms of action or indirectly, in terms of other responses. The treatment situation is similar, for in the beginning the patient may have omnipotent phantasies about the physician and may become angry and upset when the physician does not fulfill these phantasies. The wise physician does not react to this by retaliatory aggression or by becoming upset. He understands that it is not really an attack on his competency; that it is not an attack on him at all, but a projection upon his person by the patient—a transference—of certain attitudes and expectations which the patient had of certain significant figures in his early life, usually parents. By indirection and by implication, rather than by any formal speech, the physician must modify the unrealistic overevaluation of him that the patient has, and show the patient that the two of them are working together and that although he cannot be God or his father, he *can* do something to help him. If the physician and the patient can weather the rejection of the physician at the point at which the patient finds his phantasies of omnipotence in the physician are not being realized, the process of identification may take place. This too is similar to what happens at an earlier time of the patient's life, when in early childhood he begins to take into himself the values and ideals expressed by the parents—when the boy, for example, decides that he wants to grow up to be a man like Daddy. This usually occurs in the patient at a level below that of conscious awareness. When it does occur, from this alone may develop a capacity in the patient for mastering some of his conflicts. Many times improvement in a patient will be a response or in response to this kind of process.

Another factor that should be mentioned at this point at least is the meaning to the physician of his relationships with patients. The physician, too, had parents and significant early life experiences which have made him the kind of person he is; he, too, may have unrealistic expectations of the patient and he may transfer onto the patient attitudes and feelings belonging to significant people in *his* early life. Some physicians, for example, may become hostile and resentful to a patient who does not get well, for whatever reason. Some may become uncomfortable when a patient becomes too dependent, while others may resent it if a patient does not become dependent upon him, and so on. The best recourse the physician has in keeping these reactions of his toward the patient under reasonable control is to have some degree of awareness that he, like all other human beings, has passed through psychological as well as physical developmental stages, and that he, too, has been molded by the human elements in his society, represented by parents and by other social and cultural forces, which together with his constitutional hereditary equipment have made him the kind of person he is.

There are levels of awareness in this. It is not necessary for all human beings to undergo a personal analysis in order to reach a level of self-awareness which gives them some idea of the kind of person they are and of how they interact with other human beings. But it is important for the physician to understand what patients mean to him and what the power that he has over these patients means to him, and how he uses this power which patients give to him over their destiny. It *is* important that the physician respond as a reasonably mature, reasonably nonhostile, nonretaliatory person to the tremendous amount of power which he has over a patient, once the treatment situation is established. It is important for the physician to be aware enough at least so that he does not express any of his own insecurities (and, being human, he will have them) or any of his own needs for power, any of his own needs for dominance or any other aspects of his inner life which are perhaps not so healthy and mature as they might be, in such a way as to be detrimental to his patient. By understanding at least the existence of some of the pitfalls inherent to the physician in the physician-patient relationship, it may be possible to minimize or exclude their appearance.

THE PHYSICIAN AS PARTICIPANT OBSERVER

The concept of the participant observer is a useful one. When we speak of the neutral objectivity of the physician, we are not advocating a cold, impersonal approach. What we are talking about is the desirability of the physician's scrutinizing not only the patient's reactions as he interacts with the physician, but also scrutinizing his own reactions as he participates and interacts with the patient. This means that a part of him has to be an observer of the rest of him. The physician must not only be a part of the situation but also apart from it so that he can observe and evaluate all that is going on. And he has to play the two roles simultaneously.

Now the relationship between patient and physician is not necessarily fixed in time. Up to now we have been talking primarily about the kind of physician-patient relationship in which a certain amount of cooperation between them is at least possible, whether or not it actually occurs. But now, for example, let us take the patient with diabetes mellitus, who when first seen is in coma. (For this example and the analysis, we are indebted to Thomas Szasz.) At this time, the patient is completely passive; the physician active. So it is also in the relationship between the surgeon and the unconscious, anesthetized patient on the operating table. To return to our diabetic patient: When he recovers from coma, he later has to be educated or guided at the level of cooperation. Finally, more ideally, he is treated as a full-fledged partner in the management of his own health.

Confronting a patient and problem of this type, the physician is called upon to change through a corresponding series of attitudes. If, for example, he cannot allow the patient some degree of valid autonomy, if he cannot make these changes, he may interfere with the patient's progress and may promote an arrest at some intermediate stage in the evolution toward relative self-management. The other possibility in this kind of situation is that both physician and patient will become dissatisfied with each other. At such a point, the physician usually feels that the patient is "uncooperative" or difficult, while the patient regards the physician as unsympathetic and lacking in understanding of his individual and unique needs. Both may be correct. Both are confronted by the wish to induce changes in the other.

The dilemma is usually resolved when the patient seeks another physician, one who is more attuned to his new needs. Conversely, the physician will "seek" a new patient, usually one who will benefit from the physician's (own) needs and corresponding attitudes. The pattern described accounts for the familiar fact that patients often choose physicians not solely or even primarily on the basis of technical skill. Much emphasis is given to the kind of human relationship which they foster. Some patients prefer to be "unconscious" (figuratively speaking this time) irrespective of what ails them. Others go to the other extreme. Physicians, motivated by similar personal considerations form a complementary series. Thus, there is an interlocking interdigitation of the sick person and his physician.

Fairly obviously, different kinds of physician-patient relationships are necessary and appropriate for various circumstances. Problems in human contact between physician and patient often arise if, in the course of treatment, changes occur requiring an alteration in the pattern of the physician-patient relationship. This may lead to a break of the relationship.

CLINICAL EMOTIONS

It is interesting to remember that the practice of medicine is more or less directly descended from individuals who primarily practiced psychotherapy, whether they knew it or not. The medicine man, witch doctor or physician-priest fundamentally maintained the view that sickness was not due solely to physical causes—much as we do today. One of the major contributions that dynamically-oriented psychiatry has made to medicine is to make more explicit the role of the emotions in the origins, maintenance and alleviation of illness and in focusing more sharply on the factors involved in the physician-patient relationship. Thus, in recent years, in a very real sense, banal as it may sound, psychiatry has become one of the basic sciences in medicine in that every practitioner, whether he be generalist or specialist, must take cognizance of the emotional state of his patient if he is to be an effective clinician. This insight has been of great value in the whole field of medicine.

The weight of evidence forces the psychiatrist to proceed on the premise that in every moment of human life the complex of thought, feeling and conduct which constitutes behavior is determined by confluent and converging forces; that we can be aware of only a fraction of these forces at any time, and that we tend to overestimate the relative power of those of which we are consciously aware, even in events in which the unrecognized forces have played a major and determining role. While we are conscious at any moment of some of the reasons for our behavior, we are always unconscious or unaware of others.

It has been demonstrated beyond reasonable doubt that mental functioning and human motivation are not all on the conscious level; that many of our emotional problems and our conflicts take place within us at a level below that of conscious awareness. In addition, it has been shown that neurotic symptoms are an attempt on the part of the individual to solve conflict situations that arise within him. The components of these conflicts are partly in the instinctual drives and partly in opposing cultural and environmental stresses and strains. Thus, symptoms have very definite significance in the life of the patient; they have meaning and purpose. The physician has come to understand that in order to deal intelligently with these symptoms, he must understand to a degree the life history of the individual with whom he is dealing.

As was previously noted, an individual's psychological reactions tend to run in patterns. The earliest experiences in infancy and childhood are significant determining factors in the formation of personality. The pattern of conflict solution during these early periods is maintained usually throughout life and one does tend to see a series of repetitive behavioral tendencies. In fact, one definition of neurosis could be that it is the repetitive continuation into the present of behavior that may at one time in the past have been appropriate but is so no longer. It is treating the present as if it were still the past. To that degree, it is the product of a defective and unrealistic appraisal of the present situation and condition.

During any prolonged therapeutic relationship between physician and patient, these repetitive patterns of behavior from the past tend to reappear, and the patient reacts to the physician not only in terms of the actual situation, but also according to these earlier now reactivated emotional needs. This fact is of fundamental importance in medicine and recognizing the situations stemming from it is important to the physician.

Practitioners of medicine must recognize that psychotherapeutic skill or judgment cannot be acquired simply by reading books or articles like this, or by listening to lectures. For a physician who is not a psychiatrist to be aware of and to utilize psychological factors in the treatment of his patients does not mean that he forsakes his own discipline and techniques to become a psychiatrist.

His use of psychological factors must be integrated with and be a part of his discipline. For him to attempt to function as a psychiatrist might actually be maladaptive. He must moreover remember that although the physical and psychological approaches to the patient are inextricably intertwined, understanding them must necessarily be approached from different vantage points. Each must be examined separately; each represents a different level of integration; each must be formulated and conceptualized in terms appropriate to it.

COMMUNICATION—VERBAL AND NONVERBAL

To the extent that it is possible for him to do so, the physician must be aware of the patient's verbal and nonverbal communications, whether the nonverbal be in the area of physical symptomatology or other physical rather than verbal expression. He must try to be aware of the covert as well as the overt means of this communication, and he must furthermore take cognizance of the time factor in this communication—namely, why was it made at a particular time. The physician must be aware of the meaning of such communication by the patient as is provided by gestures, by facial mannerisms and by muscle tone—by what is not said as well as by what is.

Most of the time, unless the patient is forced into that mold, a life history does not come in an ordered chronological form. A biographical interview does not usually start with a statement as to where the patient was born. It usually begins where the patient cannot help beginning. If the approach of the physician is one of genuine interest and respect, the patient begins to speak in ways which he had not anticipated.

The giver of biographical material tends to be associative. He associates various elements—names, places, times, feelings and so on. It is important for the physician really to hear this in terms of overtones and undertones as the patient associates ideas, thoughts, feelings, attitudes and names. The family history might come out in the history of the present illness, or the social history might come out of context. One may get a repetition of what was said or a denial of some of the things that were said. It is important to note the omissions, the repetitions, the inconsistencies, the gaps. In this kind of communication, one notes not only the words but the tone of the words, the tone of the voice and the other methods of communication which have been mentioned.

It must be borne in mind that the patient comes to the physician not only because he wants information, counsel, advice and relief but also for emotional satisfaction. He comes for relief from feelings of guilt, for a continuation of a dependency relationship, and so on. In all such feelings, he also brings ambivalence—conflicting feelings about these attitudes, of which he is usually not consciously aware.

In turn, the physician brings to the relationship not only his knowledge and skill, but also his own feelings and attitudes, his own ambivalences, identifications and projections. He has *his* subjective feelings about the chief complaint. The physician as well as the patient in this relationship has emotional needs that require gratification. To a significant degree, he may thrive on people who are dependent on him. He may enjoy being obeyed. He may enjoy admiration and respect, and may get satisfaction from being needed. These feelings and attitudes may be partly conscious, and partly unconscious. The point is that each participant in this relationship seeks gratification of his own needs, and this may sometimes lead to conflict, not only in the patient but also sometimes in the physician. Out of these conflicts may come such behavior as giving up a patient, or being given up by the patient. It is well for us to understand this, and also important that we not get too troubled if patients leave us or we feel the need not to see certain patients. The important thing is to recognize these feelings in ourselves and to try to do something about them other than just become angry. It *is* important for the physician to remember that the *primary* aim of the physician-patient relationship is to help the patient, not to satisfy the physician.

The words used by the physician should be understandable to the patient. They should be lay terms. Verbal reassurance should not be overdone, nor should one be superficially reassuring. Statements to the effect that the patient is going to be all right, that there is nothing to worry about, are usually not very effective. To tell a patient not to worry does not stop his worrying.

Verbal reassurance should not be contradicted by diagnostic or treatment procedures. To tell a patient that a cardiac murmur "doesn't mean a thing" and at the same time advise him to come back in a month so the doctor can check on it obviously negates the attempt to allay the patient's apprehension. Nor should one contradict verbal reassurance by neglect of something that is important. Perhaps the physician has tried to reassure the patient by saying that there is nothing wrong, but maybe this reassurance has been given even before the patient has been examined! The "*furor therapeuticus*" should be avoided. The illness, whether physical or psychological, has some gains for the patient. The patient should not be deluged with therapy. The physician should not allow his own impatience or his own intolerance of the slowness with which symptoms disappear to lead him into unmasterly activity.

It is quite understandable that a physician would like to have a manual of psychotherapy, with detailed instructions of how to proceed, step by step. There are a variety of techniques which the therapist can acquire by experience and which he can use as he finds need for them. Some of these have already been sketched herein. The actual content, however—what the therapist says and how the patient reacts to this, or what the patient says—is less important than the process itself, which takes place in the framework of the interpersonal relationship between the physician and the patient.

Anxiety in the physician is extremely contagious. (A *sine qua non* of psychotherapy is that it can take place only if the therapist is less anxious than the patient.) Anxiety transfers very quickly to the patient and usually is magnified in that transfer. This depends not only upon what is said but also upon what is not said—the character of the voice, gestures, and so on; the entire gamut of expressions by pantomime, that so often speak louder than words.

With respect to how much one should tell a patient, we can do no better than to quote Oliver Wendell Holmes: "The patient has no more right to all the truth than he has to all the medicine in your saddlebag. He should only get as much as is good for him." Thus, statements that engender anxiety or create a hostile reaction to the physician should be avoided. When it is necessary to warn a patient of a possible danger, the aim is to do so in such a way that he can take necessary precautions without living in constant fear of catastrophe. Comments that create a hostile reaction to the physician and interfere with a constructive physician-patient relationship should be avoided. To tell an alcoholic that he drinks because he is immature, infantile or inadequate is to resort to name-calling. The same can be said for labeling a patient a neurotic, a faker or a damned hypochondriac. This sort of response may occur when the physician is frustrated in his efforts to satisfy the patient or himself. A patient cannot be told facts as though he were purely a rational being. His emotional responses must be taken into consideration in determining what he should be told and what he should not be told and how it should be done.

It is advisable for the practitioner to know something about psychopathological mechanisms and symptoms, but this knowledge should not be used indiscriminately in uncovering inner conflicts, for it may do considerable harm if given at a time when the patient cannot accept it. Patients with longstanding or severe neurosis and patients with psychotic reactions should be referred to a psychiatrist. Patients who can be helped by the general physician are those who have mild or transient neurotic symptoms in which environmental factors predominate as the immediate cause. Patients with mild anxiety symptoms with characteristic physiologic changes, persons with marital problems which are the result of lack of knowledge or understanding, or patients who are reacting to adverse changes in their life situation by mild depressive illnesses, may be helped considerably through the simple techniques of reassurance, suggestion, explanation and education, with sometimes the use of pharmacological support as an additional measure, all in the context of a good physician-patient relationship. A general physician, in his treatment of patients with emotional problems, may find consultation with a psychiatrist fruitful and sometimes necessary, as he may, for example, consulting with a surgeon.

The most essential qualification of a practitioner before he can successfully manage patients with emotional problems is to understand himself to a reasonable extent. Without some knowledge of his own emotional tendencies, reactions and blind spots, the physician cannot hope to achieve that sense of neutral, nonjudgmental objectivity and empathy so necessary in dealing with troubled, hurt, frightened human beings who are seeking relief and guidance.

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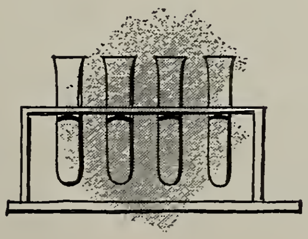

Pyridine-2-Aldoxime Methiodide

A Valuable Agent for Phosphate Poisoning

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• Phosphate insecticide use is increasing as is concomitant human poisoning. Home insecticide bomb as well as agricultural, crop contamination and suicidal exposure are noted.

Clinical poisoning may be chronic and severe. It may follow long exposure or short exposure with heavy dosages. Manifestations are those of excessive cholinergic activity.

Adequate laboratory means for early, rapid diagnosis and screen testings are available.

PAM is a valuable agent for this type of poisoning and is a much more adequate and complete antidote than atropine. It is available (under certain restrictive conditions presently). It is being widely used elsewhere in the world but with limited education and use in this country. Morbidity and mortality continue at a rate that could probably be corrected.

Case reports, describing the use of this antidote in our hands, are included.

Government and industry responsibility as well as physician education must be more clearly defined in prevention, recognition and treatment in what is often a life threatening situation.

PHOSPHATE ESTER INSECTICIDES are being widely used in agriculture throughout the world. These compounds were initially developed as deadly weapons of twentieth century warfare in the form of nerve gases. They are now used for agricultural purposes in greater quantity than any other insecticide except D.D.T.[3] They are also used in the home, and residual deposits on food crops have caused poisoning of persons. Cases of poisoning from exposure of workers in greenhouses and from deliberate use as a suicidal agent have been reported.

They act by interfering with normal nerve impulse transmission. Acetylcholine is a chemical mediator of nerve impulses at the ganglionic and end organ sites of innervation. Acetylcholinesterase prevents excessive accumulation of acetylcholine by a hydrolytic process. These phosphate poisons form a covalent bond with acetylcholinesterase, resulting in an inactive phosphorylated substance which is no longer capable of hydrolysis of acetylcholine.[4] The acetylcholine thereby accumulates to abnormal degree, resulting in excessive parasympathomimetic effect.

CLINICAL POISONING

The incidence of clinical poisoning is difficult to determine. In 1957 in California, there were 229 cases of occupational organic phosphate insecticide poisoning reported, one of them fatal.[5]

It has been reported from Israel that Parathion leads the list of insecticides causing poisoning there and is one of the five major poisons causing fatalities. Many suicides from Parathion have been reported in Finland. Food contamination poisoning has been reported, as have numerous instances of accidental ingestion by children. The greatest incidence, however, lies in exposure of personnel involved in many phases of agriculture, such as crop dusting, handling of plants and greenhouse work. In one case a farmer died of poisoning that resulted from walking through a field that had been dusted with one of these phosphate compounds. He had taken no part in the dusting process.

A bureau of the California State Department of Occupational Health has established regulations regarding protective clothing and equipment to prevent undue exposure. Also defined are time intervals during which persons should avoid dusted areas. These intervals vary with many factors such as type of crop or tree, wind, rain, and specific phosphate compound used.

These phosphate poisons enter the body rapidly and easily by ingestion, inhalation and absorption through intact skin. A distinct danger lies in the fact that signs and symptoms of illness do not appear until dangerous quantities have been absorbed. Subclinical poisoning may exist from chronic exposure, then acute illness develop suddenly and progress swiftly upon relatively small additional exposure.

These manifestations result from excessive cholinergic stimulation and are typically:

- Muscarinic-like symptoms. Symptoms referable to the gastrointestinal tract are vomiting, cramping, eructation, diarrhea, tenesmus and rectal incontinence. Respiratory tract involvement is manifest by tightness, wheezing, increased bronchial secretions, cough, dyspnea and subsequent pulmonary edema with cyanosis. Symptoms referable to

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the urinary tract may include frequency and incontinence. Other symptoms of poisoning of the muscarinic type are sweating, lacrimation, salivation, myosis, blurring of the vision and bradycardia.

- Nicotinic-like poisoning manifestations of twitching, cramping, weakness, fasciculation of skeletal muscles and respiratory depression. Also, if the sympathetic ganglia are affected, pallor and blood pressure elevation may be manifest.
- Central nervous system manifestations include giddiness, nightmares, confusion, ataxia, convulsions, coma and depression of respiratory and circulatory centers.[9]

LABORATORY FINDINGS

Diagnostic laboratory evidence of phosphate poisoning is obtained by measuring erythrocyte cholinesterase levels. Many procedures have been devised for this determination.[3] Additionally, a serum cholinesterase level measurement has been used in this regard but is nonspecific because serum cholinesterase is inactive, is affected by numerous other factors and has consequently been designated as a *pseudo*cholinesterase. Materials and instructions for a readily available, easily performed test that can be used in screening for possible chronic poisoning as well as for confirmation of an acute clinical situation are obtainable from the Biological Test Products Corporation, 1112 Thompson Avenue, Rozelle, New Jersey. This method tests whole blood acetylcholinesterase levels and provides all information needed. The authors often have observed leukocytosis with neutrophilia in patients with phosphate poisoning. Transitory albuminuria has been noted, but not hematuria. There are no other diagnostic laboratory findings.

ANTIDOTES

An ideal antidote would be one which competed with the phosphates for the binding area of the acetylcholinesterase and which also dephosphorylated the inactivated enzyme. If such an antidote were only competitive for the binding area, one would expect eventual restoration of the acetylcholinesterase. There is reason to believe that this would take some time, as judged by the length of time it takes for the erythrocyte acetylcholinesterase to return to normal after withdrawal from exposure to poison. Therefore, such an antidote presumably would not be immediately effective. However, an antidote which allows dephosphorylation and thereby restores the capability of hydrolysis could potentially result in immediate reversal of the poisoning mechanism. Substantial evidence has been accumulated that one compound, called pyridine-2-aldoxime methiodide, and known as PAM, achieves both of the above-mentioned antidotal properties.[2] In clinical usage, full restoration of acetylcholinesterase to normal levels is not readily and continually achieved although the condition of the patient shows rapid clinical improvement.

It should be stressed that inhibition of erythrocyte acetylcholinesterase activity may persist for several months after withdrawal from further exposure. Decreased serum acetylcholinesterase activity ascribable to poison may last for weeks, and in this regard it should be pointed out that there is varying toxicity between different forms of the phosphate poisons. The type known as Parathion is considerably more toxic than Malathion. Parathion is converted in the body to a substance called paraoxon, which is the actual cholinesterase inhibitor. The rate of excretion of PAM is faster than the conversion of Parathion to paraoxon, so symptoms may recur after initial treatment with PAM and subsequent therapy may be necessary in any given case.[8]

Atropine was the first practical remedy because of some counteracting effects of acetylcholine excess. Its inadequacy as a complete antidote stems from the fact that although it reverses the muscarinic effects well, it does not reverse the nicotinic effects or for the most part the central nervous system effects of acetylcholine. With atropine, other measures such as control of convulsions with barbiturates and the use of supportive means such as artificial respiration were often necessary. Substantial numbers of reports of the use of PAM in phosphate poisoning have been published, particularly in the foreign literature. The paucity of similar reports in the American literature is interesting. The *Journal of the American Medical Association* in 1958 printed an article from Japan reporting on administration of PAM intravenously. The signs of poisoning were frequently reversed in a very short period.[6] Rapid clearing of the nicotinic and central nervous system effects have been reported by many investigators. There is, however, some uncertainty as to whether PAM counteracts in full or part the muscarinic manifestations of excess acetylcholine. For this reason, it is probably advisable to use both drugs in a severely poisoned person. The clear superiority of PAM over atropine in overall effect, however, is shown in many case reports and is documented in one of the cases reported herein. The duration of PAM effect is apparently relatively transient, and repeated doses may be necessary. This is a limiting factor in the potential of the drug as a prophylactic agent.[9] Side effects have not been reported in clinical use. The $L.D._{50}$* of PAM in mice is variably reported as 110 to 190 mg. per kg. of body weight. PAM can be given at the rate of 500 mg. per minute intravenously. The crystalline material is 5 per cent soluble so that the methiodide form in solution has 1 gram per 20 cc. of water.

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*Lethal dose for 50 per cent of subjects.

PAM is considered experimental and if it is used in a new form called Protopam chloride, one must have the patient's permission to give it as an experimental drug and the physician must submit a Statement of Investigation. The drug is at present available under the above conditions through the Campbell Pharmaceuticals, Inc. The substance has been demonstrated to reactivate 80 per cent of phosphate-inhibited enzyme within one minute.[4] Animal studies have shown the duration of protection dropping substantially after the first hour. Some of the cholinesterase results noted in the cases here reported tend to show the same phenomenon in humans.

REPORTS OF CASES

CASE 1. An 18-year-old boy who spent his summer vacation loading Parathion insecticides into airplanes for use in crop dusting was admitted to hospital late at night. He stated he had frequently been exposed to the chemical, both by inhalation and by spilling it upon himself. On the afternoon of the day of admission he noted rather rapid increasing weakness, abdominal cramping, pain, nausea and muscle twitching. He denied increased cough, perspiring or salivation. He lay limp and quiet, appeared weak and mentally torpid. He complained of abdominal distress and frequently gagged but did not vomit. His skin was moist. Respirations were 20 per minute and the pulse rate 84 (an hour later 72). Blood pressure at first was 160/80 mm. of mercury and later 130/75. The pupils were small but not pinpoint. Atropine 0.45 mg. had been administered 15 minutes before his admission. Increased salivation was noted. The abdominal muscles seemed taut in comparison with frail, weak muscles elsewhere. No increased rales or rhonchi were heard. Deep tendon reflexes were decreased to absent but symmetrical. Testing of muscles was estimated to reveal 70 per cent decreased strength symmetrically. The screening acetylcholinesterase depression test confirmed the admitting diagnosis. We had not previously used PAM (this was in August 1960) although we had obtained a supply and prepared it by placing it in solution and sterilizing it.

Blood was drawn for laboratory studies, including the screening test for cholinesterase level as well as for more accurate determination of serum and erythrocyte levels to be done subsequently. At this point, 0.75 gm. of PAM was given slowly intravenously. In a matter of minutes, the abdominal cramping cleared, the muscle cramping and weakness eased and the patient appeared a good deal stronger, which he was, as tests showed. The nausea had passed. He remained quite comfortable under close observation throughout the night, and the following morning the pupils were normal and there was no longer any muscle discomfort, weakness or other sign of poisoning. That subacute or chronic poisoning effects persisted, however, was indicated by the levels of anticholinesterase in the blood. Laboratory data on acetylcholinesterase contents are shown in Table 1. At the time of admission, leukocytes numbered 21,000 per cu. mm., with a cell differential of 89 per cent neutrophils, 8 per cent stabs, 2 per cent lymphocytes and 1 per cent metamyelocytes. The carbon dioxide combining power was 27 milliequivalents. The following day, leukocytes numbered 11,700 with normal cell differential. Except for a heavy trace of albumin, results of urinalysis were within normal limits.

CASE 2. A 20-year-old man working for the same crop dusting concern as the patient in Case 1 had been handling concentrated Parathion material in loading tanks for some two months. The history was obtained from the patient, the referring physician, and persons at the place of employment. Not all the information was available before treatment. Approximately seven to ten days before admission, the patient had spilled Parathion solution on his clothing, wetting his chest and abdomen and legs. He had immediately showered and apparently had had no immediate symptoms. At 10 a.m. the day of admission, he spilled a small quantity of the poison in liquid form of unknown concentration on his right foot. He washed his foot and canvas shoe with plain water but then continued to wear the shoe after this inadequate cleansing. At about 2:30 p.m., nausea developed and was soon followed by sweating, weakness and excessive salivation. At this time the patient took two 0.4 mg. tablets of atropine. He subsequently vomited and was then admitted to hospital. At this time his principal complaint was of severe trembling of the muscles of the arms, neck and upper trunk.

Upon physical examination the patient appeared to be acutely ill and the skin was cold and sweaty. Respirations were normal. Considerable salivation was present and the speech was thick and slurred. The patient was irritable, asking to be let alone rather than examined. The most striking physical finding was a tremendous play of fasciculations of the muscles, especially of the arms, shoulder girdle and neck. The neck was supple. The pupils were at normal positions, and were about 3 or 4 mm. in size. At first the pulse rate was 64 and after 20 minutes at the emergency room had become 48. Blood pressure was 160/90 mm. of mercury. Respirations subsequently became mildly depressed. Trembling fasciculations made deep tendon reflex testing difficult, but good ankle jerks were obtainable although the knee reflexes were not elicited. At 4:20 p.m., 1.2 mg.

of atropine was given subcutaneously. There was no effect on the symptoms. At 5:00 p.m. the same dose of atropine was given intravenously over a period of two minutes. There was immediate flushing of the skin and, within minutes, complete cessation of the profuse perspiration. From then on the patient's skin was warm and dry. The heart rate increased from approximately 50 to 140, and tachypnea with shallow, rapid respirations ensued. Rhonchi and excessive salivation cleared completely. Blood pressure was unchanged as were the pupils and the tremor. The patient remained weak. At approximately 5:30 p.m., although the eyes were open and the patient seemed to see and comprehend, he did not speak or respond. At 5:45 p.m., the first of four grand mal seizures over a period of 50 minutes occurred, the first lasting 15 minutes, the second 9 and the last two 6 minutes each. It appeared that atropine had accomplished all that it could, in that there was complete clearing of the muscarinic effects of acetylcholine, since excess oral and tracheobronchial secretions had cleared, and the skin was perfectly dry. Because of this and the rapid heart rate, undesirable effects of the usually advised, higher doses of atropine were feared. The nicotinic and central nervous system effects of severe phosphate poisoning had not been affected. Progressive central nervous system deterioration was present. Immediately after the first convulsion, sodium luminal was given intravenously, and sodium amytal intravenously with the second convulsion. PAM was given during the fourth convulsion, 0.5 gm. slowly by vein over a period of three minutes. As the patient relaxed from this convulsion, the fasciculations of muscles, which had continued throughout and which were quite pronounced, ceased completely and did not recur. Respirations had become depressed and the heart rate, which had been 140, continued at that rate. The pupils had not dilated and were essentially normal in position. At 7:15 p.m., a second dose of PAM was given intravenously and within five minutes or so respiration was normal. At 8:20 p.m., the patient aroused to consciousness, having been unconscious for about two hours and 50 minutes. By 10:00 p.m., he was alert, cooperative and gave a full history, although he was still weak. The following morning, he was well without complaint except for dryness of the mouth because of continued atropine. No weakness was demonstrated. The cholinesterase screening test indicated marked inhibition, and the following day the test indicated complete inhibition. Thirteen days later, the screening test again showed marked inhibition. There had been no further exposure. Results of cholinesterase determination are shown in Table 2.

TABLE 1.—*Results of Cholinesterase Determination, Case 1*

Time	Whole Blood Cholinesterase Testing	Plasma	Erythrocytes
Initial (before PAM)	*Complete	*0.0 delta ph	0.18 delta ph
10 minutes (after PAM)	Marked	0.27 delta ph	0.44 delta ph
45 minutes (after PAM)	Moderate	0.10 delta ph	0.44 delta ph
Next a.m. (10 hours)		0.0 delta ph	0.31 delta ph

Normals:*
Whole Blood = No inhibition.
Plasma 0.41—1.65 delta ph
Erythrocyte 0.55—1.25 delta ph

*The results of the screening test (whole blood) that we use for cholinesterase activity are reported in four categories: No inhibition, moderate inhibition, marked inhibition, complete inhibition.

TABLE 2.—*Results of Cholinesterase Determination, Case 2*

	Erythrocytes		Plasma	
Time	Delta ph	Per Cent of Published Normals	Delta ph	Per Cent of Published Normals
60-90 minutes after PAM	.40	54	.17	23
14 hours	.30	40	.08	11
38 hours	.31	41	.19	27
18 days	.37	49	.48	68

CASE 3. The patient, the same as the one in Case 1, was poisoned again a little over a year later. Again he had spent his summer working in loading airplanes for crop dusting. He believed that he might have spilled Parathion on himself two weeks before admission to hospital. Then, two nights befor entering the hospital, a high pressure hose that was being used to load a plane parted at a coupling and fluid spilled, drenching the patient's clothing below the abdomen. He immediately jumped into an irrigation ditch and washed himself thoroughly. He did not change his clothes, however, and continued to work. Except for being a little tired, he had had no symptoms the day before admission. Then on the afternoon of the day he entered the hospital, while working, he noticed gradually increasing muscle weakness and excessive perspiration. This was followed by nausea and vomiting. He was able to get home but because of extreme muscle weakness, he had to be helped into the shower. Muscle jerking was noted but no fibrillary twitching. Vision was not abnormal. The patient did not lose consciousness. At the time of admission, his skin was wet, the pupils normal, and he was lying on the bed retching. Involuntary muscle twitching, but without constant or repetitive fibrillation, was noted. PAM was administered slowly by vein, 1 gm. in 20 cc. of water. Nausea continued for about 30 minutes, but within an hour all nausea and muscle weakness were gone. The following morning, the patient felt well and no abnormalities of physical signs were detected. In this case the initial screening test for acetylcholi-

nesterase activity, carried out 30 minutes after the administration of PAM, showed marked inhibition. The cholinesterase screening test the following morning showed complete inhibition, and a test obtained nine days later, again after no further exposure, showed marked inhibition of the total blood level.

* * *

The authors have observed two cases in addition to those here reported in which the patient (in one instance a 22-month-old child) spilled or swallowed Malathion. The use of PAM was not necessary. Also, two other instances of agricultural poisoning have recently occurred in our community, and in both instances PAM was used intravenously. In these cases the patients were treated by other physicians with supervision by the authors. Prompt response was noted. Laboratory data are not available.

DISCUSSION

It has been our feeling after a substantial review of this subject, that further education in regards to the handling of these phosphate poisonings is indicated. Worker education, protection and instructions in many fields is necessary. In our area in the Sacramento Valley, there are numerous agricultural processes whereby exposure can be achieved. Studies to determine the duration and type of exposure necessary for clinical poisoning or dangerous levels are probably indicated. An excellent article in this regard demonstrates the problems presented in greenhouse exposure to these poisons.[1]

Periodic acetylcholinesterase levels on persons with industrial or agricultural exposure is probably indicated. Our area has many people engaged in airplane crop dusting with these phosphate poisons. Ground personnel, including those who signal the airplanes as well as those who load and handle the poisons, are frequently exposed. One group has been under our observation with periodic cholinesterase determinations. Two members of this group have shown moderate inhibition by the screening test and possibly serious inhibition and poisoning was prevented by effecting withdrawal from exposure. Corroborative red blood cell acetylcholinesterase levels were obtained in each case and were confirmatory of inhibition.

Labeling of insecticides with substantial warning is important. We have seen poisoning in youngsters where little warning was given to the parents of the possible dangers. Likewise, identification of the poison, by the physician, has not always been easy. Repeated cases of poisoning that we have seen have come from one crop dusting concern where education and caution have not been observed, notwithstanding our repeated admonitions along this line.

Governmental supervision and law enforcement at federal, state, county and local levels has not, in our experience, been adequate. The departments assigned to these tasks are substantially understaffed in relation to the widespread use of these poisons. Three branches of our state government are concerned with different phases of control of these poisons and a unified approach has not been achieved.

Better physician education is equally important. A prime example is that queries directed to some poison control centers result in information concerning only atropine as an antidote for phosphate poisoning. Even pamphlets distributed at the present time by the California State Department of Health make no mention of PAM. An article in this month's (October 1961) issue of the journal, *G.P.*, likewise does not mention PAM.[7]

How much morbidity and how many fatalities will ensue before proper education of all concerned is achieved? How long will this life saving antidote be available only as an "experimental investigator" drug?

It is to be noted in Tables 1 and 2 that substantial correction of cholinesterase inhibition does not occur though rapid clinical improvement is achieved by the antidote.

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SCUBA Diving and the California Physician

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THE RELATIVELY NEW SPORT OF SCUBA (self-contained underwater breathing apparatus, i.e., aqualung) diving has confronted California physicians with many problems that are all the result of physiological phenomena indigenous to this sport. SCUBA diving as contrasted to skin diving has opened a complete new world to the water sport enthusiast. He can swim weightlessly and in relative comfort to depths that once could be reached only by divers employing hard helmets with a connection to the surface for air and lines for control of ascent and descent. The SCUBA diver is relieved of all of these impediments. Unfortunately he shares many of the hazards.

Several thousand SCUBA divers enter the water each week along the California coast. Many of the divers are trained by diving instructors in the Y.M.C.A., diving shops or city recreational departments. Persons who have had such training are properly prepared to enjoy the sport and know how to prevent problems from arising and how to deal with them if they do arise. Unfortunately diving equipment may be purchased without a certificate that states the owner has been properly trained in its use. Most reputable diving shops, however, will not sell equipment to persons who have not completed a course. Courses that are of value include both classroom work and sufficient time in the water so that the diver may encounter all conditions commonly seen while diving in the ocean. SCUBA diving is not a sport that may be learned simply by entering the ocean and beginning.

The physician with his special training in physiology, physics and medicine can readily adapt this knowledge to the problems associated with using the aqualung and can urge proper training upon patients who may be interested in taking up the sport. Many physicians enjoy the sport themselves.

The SCUBA, or aqualung as it is commonly called, is a valve system that delivers air to the airway of the diver equal to the water pressure from a high pressure tank. As the diver descends, the water pressure increases approximately 0.5 pounds per square inch. The aqualung automatically compensates for the pressure changes and breathing therefore takes a minimum amount of effort. The tanks when full are under 2,300 pounds per square inch pressure and the SCUBA lowers the pressure to equal the water pressure. As the diver descends, the volume of the lung stays constant the same as it would on the surface in any comparable phase of respiration, although the pressure goes up 0.5 pound for each foot the diver descends. This creates several problems. One of these concerns equalization of pressure in the various air-containing spaces of the skull—the middle ear and sinuses. Sinus pain and rupture of the tympanic membrane can occur as the water pushes in on descent, but this hazard can be easily prevented by proper insufflation of the Eustachian tube and ostia of the sinuses. Obviously any disease process that would occlude these openings would preclude diving. There are two chief problems that arise on ascent. One is associated with the paranasal sinuses and middle ear, the other with the lung. If an ostia becomes occluded before ascent, the air inside the air-filled cavity expands as the diver ascends, causing pain. Nosebleed is common as the pressure overcomes the obstruction. Another form of bleeding may occur in the paranasal sinuses on descent if the ostia are occluded: Due to the pressure differential in the nose and paranasal sinuses, extreme congestion of the mucosa in the paranasal sinuses occurs, usually resulting in hemorrhage into the sinuses.

The most dangerous condition that may arise on ascent is air embolism and the source of air is almost invariably from the lung. This usually results when the diver ascends very rapidly while holding his breath or a bronchiole is obstructed by mucus, creating a ball valve effect. The air beyond the obstruction expands as the diver ascends, rupturing the capillaries and producing air embolism. To prevent this hazard, the diver should exhale regularly and forcefully on ascent, always ascending more slowly than the rate of ascent of bubbles made by his exhaled air.

Occasionally if the pressure in the face mask becomes a good deal lower than the surrounding water the blood vessels of the conjunctiva and face become severely engorged, which can bring about a subconjunctival hemorrhage, petechiae or chemosis and edema of the face. This problem is very easily prevented by exhaling through the nose into the face mask to equalize the pressure.

Water should be allowed to flow freely into the auditory meatus. Ear plugs should never be used, for the water pressure can push them through the

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tympanic membrane. Vertigo is a common problem as the cold water enters the ear canal. Although it is usually transient, it is a good idea for the diver to chew his food well so that it will go through the breathing tube easier should he vomit. Frequently the physician may be called upon to prescribe a nasal passage decongestant so that the diver may insufflate his middle ear and paranasal sinuses easily.

A common complaint of divers is extreme dryness of the mouth. This results from the fact that all moisture has been removed from the air before it is put into the tanks. It does no harm. The source of the diver's air is extremely important, for even infinitesimal amounts of carbon monoxide or other toxic gases produce toxic effects out of proportion to the degree of concentration when placed in the body cavities under pressure. Even traces of oil from a compressor can cause petroleum pneumonia. The source of the air should be approved by the local health authorities.

Pneumothorax can happen if some trapped air in an emphysematous bleb ruptures into the pleural space. Immediate recognition and treatment would be mandatory.

The bends should never be a problem in the sport diver because the diver should never use over 180 cubic feet of air in one 24-hour period. Since the deeper a diver goes the more rapidly he uses his air supply, there is a built-in safety factor that will keep the depth-time ratio well within the safe range so long as not more than 180 cubic feet of air is used in a 24-hour period. Even this amount should not be used in a single dive, but preferably in two or three.

Nitrogen narcosis should not be a problem, for there is little of interest to see in exceeding 100 feet and the amount of nitrogen that accumulates in the blood while using 180 cubic feet of air is less than the amount needed to produce pathological exhilaration that would interfere with making decisions. Sport diving should never exceed 100 feet.

Diving in California water necessitates the use of an exposure suit preferably of the wet type. Even in summertime the surface water is chilly, and below 50 feet it is very cold. Unless the skin is covered by a properly designed exposure suit, the rapid loss of body heat will produce unconsciousness.

A very common but little thought of cause of accidents is fatigue. This is usually caused by exceeding one's physical capabilities. Long swims, adverse currents and difficult underwater terrain are examples of situations that may contribute to this problem. Not only should the diver understand the whims of the sea, he should also be aware of his physical limitations, by a complete physical examination.

A diver should understand himself to the extent of knowing whether he will panic if he is blinded by having his face mask knocked off or if sudden inquisitive animals such as sea lions and large fish suddenly appear. Training by a capable instructor can help in this regard.

Almost always a person interested in taking up SCUBA diving asks about danger from sharks and other sea animals. The answer is that while problems with them can be serious if they occur, they rarely do occur. Every SCUBA diver of any experience has been near to big sharks, moray eels, rays and sea lions. The incidence of damage from them is very low, and even then there is usually provocation, such as carrying a fish on one's belt. Large sharks and killer whales are completely unpredictable and the best advice is: Leave the water if either is sighted. Cuts from barnacles and sea urchins are the common problem, albeit prosaic. The physician may have opportunity to render an opinion regarding underwater apparatus such as rebreathing units, homemade units and helium units. These should be uniformly discouraged. The homemade units are untrustworthy, use of the oxygen rebreathing units may produce convulsions in as little as 30 feet and the helium units are designed only for special deep work and never for sport diving. Divers should be encouraged to use only air in the best equipment from reputable shops, and always to join in the buddy system with persons who have reliable gear and are adequately trained.

All physicians who practice near the coast should know where the nearest decompression tank is. These tanks are usually at a Navy facility and they are ready for immediate use if a case of air embolism or the bends is encountered. It is usually not necessary for the practicing physician to know the details of operating the tank, as adequately trained physicians and personnel are available. While the patient is taken to a tank, which should be done immediately, acceptable first aid treatment of air embolism is to turn him on his left side so that the air may leave the heart and the heart may resume pumping blood. Other supportive measures are indicated such as mouth to mouth breathing and treatment of shock.

Physicians wishing fuller information on SCUBA may get it from two reports.[1,2]

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Uses of Felt in Industrial Practice

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• Orthopedic felt often can be used quite simply and with great effectiveness to relieve pain referable to positional, traumatic or inflammatory abnormalities of bone, tendon or muscle.

Trial of protective and supportive padding with this material is particularly recommended in noninflammatory olecranon bursitis; in beginning ganglion formation; in stenosing tendovaginitis, particularly of the flexor tendons of fingers; in painful heel (subcalcaneal bursitis); and in the correction of postural deformities or imbalances.

In the practice of industrial medicine, orthopedic felt has come to be a most important adjunct to treatment. It is almost impossible to cover all considerations in the application of this versatile material, but a few of the most important may be dealt with here.

There are a number of disorders of the head and neck in which felt may be used effectively. Many practitioners, including orthopedic surgeons, have stressed the use of traction and Thomas collar-type splints for treatment of neck strains and sprains and fractures of the cervical spine. It is apparent that some of these conditions are included in what is commonly known as "whiplash" injury of the neck. A sling made of felt provides a very comfortable and effective means of applying cervical traction. The sling is prepared by cutting a piece of ⅛-inch felt 36 inches long and 4 inches wide and splitting it longitudinally through the center between points 10 inches from either end. The strip is then placed with one split portion under the chin and the other over the occiput and the two ends joined above the head, thus forming a comfortable sling (Figure 1). A piece of venetian blind cord or rope fastened to the ends of the sling and extending over a pulley to a weight completes the apparatus and provides good traction, which can be applied with the patient sitting in a chair or reclining. If while reclining, the pulley should be attached to the bed and the head of the bed should be blocked up 10 inches for counter-traction.

Another use of felt is to form a cervical collar (Figure 2). This is prepared by cutting a piece of felt 18 to 20 inches long and 6 inches wide. The felt is cut to shape, then molded over an angle, such as that provided by the back of a chair, to make it curve to fit the neck. The collar may be held in place with an Ace elastic bandage loosely applied to prevent constriction of the throat. A space of approximately 2 inches should be maintained in front of the neck to prevent direct pressure upon the underlying laryngeal structures. This use of felt and elastic bandage makes a good, inexpensive collar that is not difficult for either the patient or the physician. It is assumed, of course, that x-ray films of the neck area will be taken in all injuries suggestive of bone damage or dislocation. If serious lesions of the bones are present, rigid splinting with a metal brace or cast or surgical manipulation may be required.

There is considerable controversy at present concerning some aspects of cervical trauma, particularly that which results in the so-called "whiplash" injury. Regardless of the difference of opinions among physicians concerning this entity, patients will give a history of neck injury and will insist upon treatment. The method of treatment described above is simple, economical and easily provided by all physicians faced with this problem.

Another important use of orthopedic felt is in the application of a figure-of-eight dressing for fractures of the clavicle. If elastic bandages are used, it is necessary to apply protective pads to keep the bandage from rolling into a rope-like mass which will irritate the tissues of the anterior borders of the axillae. This usually necessitates frequent removal of the dressing, which obviously is not consistent with obtaining the best results. The use of felt in this application is particularly important, since it can be rolled to accommodate further forward movement of the arms at the shoulder with maximum comfort (Figure 3). A similar arrangement is also needed in the application of a homemade clavicular cross. In this situation, the arm straps that hold the shoulders back must be padded to prevent constriction in the axillae. Felt is incorporated in the construction of the more modern prefabricated splints.

Sometimes a patient will complain of tenderness and pain about the medial epicondyle and will relate it to an injury to the area. Usually there is no external manifestation of an injury such as redness, discoloration or abrasion. Often the symptoms produced by repeated slight traumatic contact of the

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epicondyle with a firm or hard object, perhaps as a result of repeated motions of the arm in certain working conditions as, for example, flicking against a hard leather belt, or the firm belt loops on Levis or contact with tools or tool holsters attached to the belt. Such injuries frequently will heal if a small piece of orthopedic felt, fabricated in doughnut shape rather than a solid pad, is applied and held firmly in place by adhesive and an elastic bandage (Figure 3).

A rather common complaint in industrial practice is of contusions of the lateral as well as the medial epicondyle. Careful examination must be made to distinguish between contusion and radiohumeral bursitis, sometimes falsely called "tennis elbow." In the case of contusion, which may also be classified as lateral epicondylitis, swelling, redness, discoloration or other evidence of direct trauma is present; with radiohumeral bursitis, rarely is there manifestation of it on physical examination, as the condition is probably caused by inflammation of the radiohumeral bursa and not by direct trauma. Epicondylitis responds favorably and rapidly to simple treatment consisting of applying heat and protecting the area with a felt doughnut. Radiohumeral bursitis will not be helped and may be aggravated by such treatment.

The use of a felt pad in treatment of olecranon bursitis, however, is of definite value (Figure 3)—but only when the disease is of non-inflammatory origin. If the bursal swelling is considerable and the sac cannot be compressed sufficiently to meet the resistance of the bony olecranon, the felt pad and elastic bandage are worn during the active working period; but if there is not much distention of the sac, wearing the pad only during sleeping hours should suffice. In either case, the use of warm compresses for 30 minutes before bedtime is recommended. Following the application of heat, the felt pad is applied over the swollen bursa, and mild pressure is maintained by the elastic bandage. To preclude constriction should the elbow inadvertently be bent during sleep, the bandage is applied with the joint in flexion. The bandage should be snug but not tight. The fact that mild pressure reduces swelling suggests an increase in the hydrostatic exchange of fluid from the sac.

An unusual use of felt is in the treatment of ganglions of the wrist, especially dorsal ganglions. The best results are obtained in the treatment of early developing ganglions as they are pushing their way up between the tendons, particularly those of the extensor carpi radialis and the extensor indicis proprius muscles. Since often there is no observable evidence of disease, the diagnosis must be made on the basis of vague, subjective complaints such as

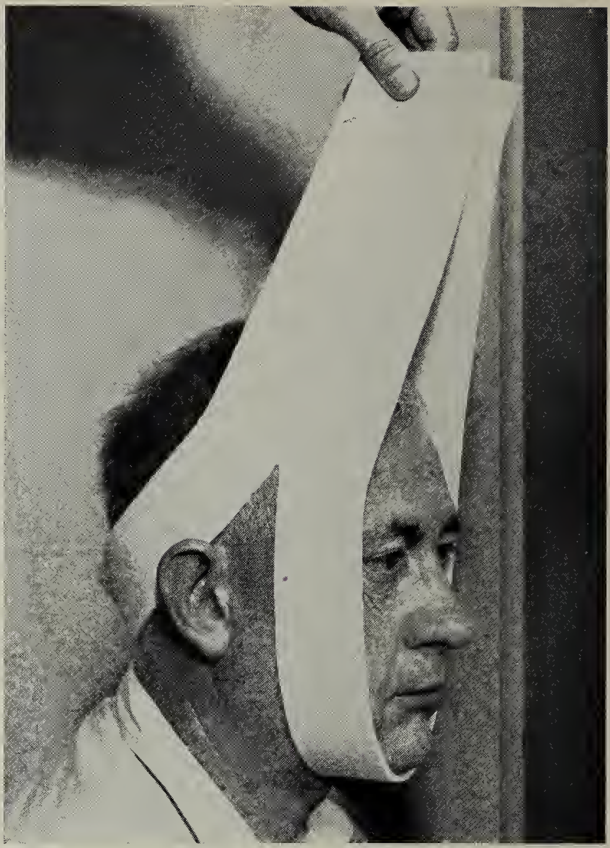


Figure 1.—Strip of felt 36 inches long with slit down the middle used as sling for application of traction to neck.

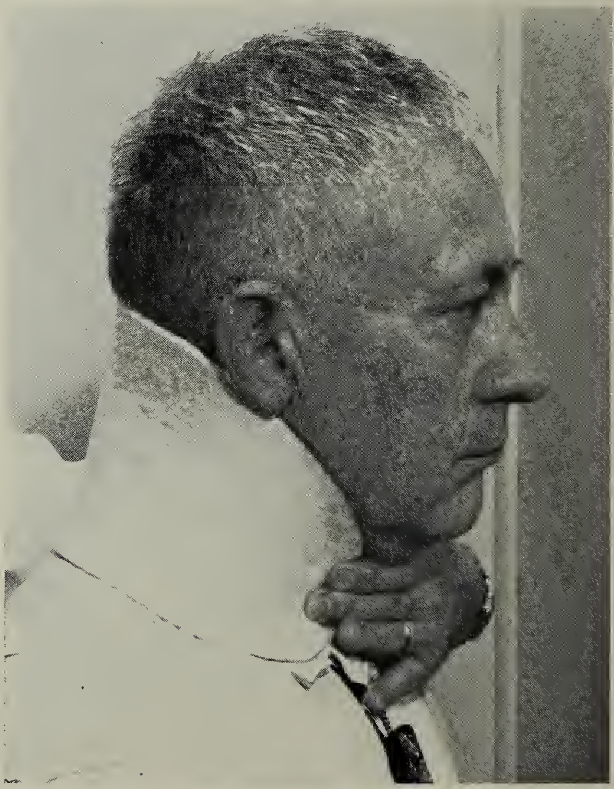


Figure 2.—Piece of felt 18 to 20 inches long and 6 inches wide, molded to form a cervical collar.

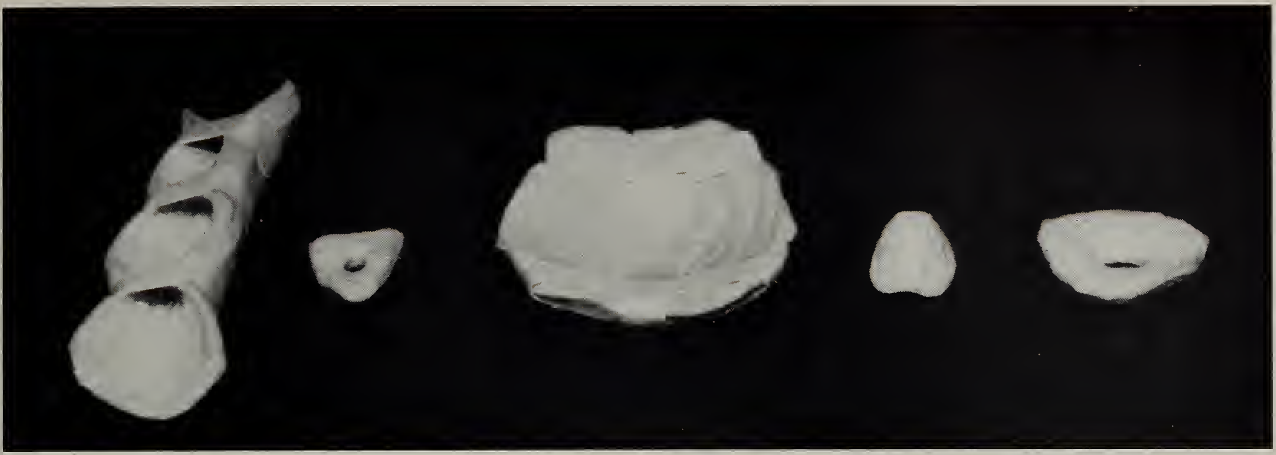


Figure 3 (left to right): Anterior shoulder pad for figure-of-eight dressing for clavicular fractures; doughnut-shaped felt pad for tender medial epicondyle; concave felt pressure pad for treatment of non-inflammatory olecranon bursitis; wedge-shaped conical pad for dorsal ganglions of the wrist; felt doughnut pad to protect hamate bone in hypothenar area.

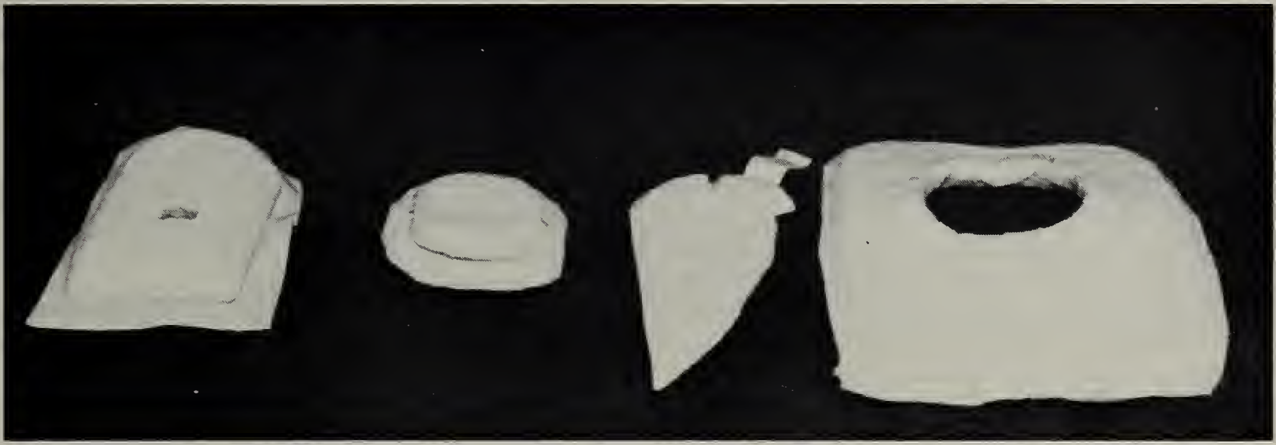


Figure 4 (left to right): Felt doughnut pad cut to cover entire heel with small hole beneath painful point of subcalcaneal bursa; pressure pad to be used over Baker's cyst covered by Ace bandage; longitudinal arch pad showing extra anterior transverse arch pad which can be added if necessary; large piano-felt doughnut with hole offset to allow for widest portion of pad to be used over suprapatellar portion of capsule.

aching in the wrist, intensified by making a fist and dorsally flexing the wrist while simultaneously applying pressure to the palm. The patient generally explains his symptoms on the basis of contusion or sprain. Due to weakness of the wrist, some degree of impairment is usually present. This condition is best treated in the following manner: A wedge-shaped pad is made by taking two pieces of ¼-inch felt and shaving them into a conical shape (Figure 3). The pieces are aproximated with ¼-inch adhesive tape. The pad is then applied between the tendons directly over the point of maximum tenderness, which can be determined by applying pressure over the pad before the dressing has been completed. The pad should be reapplied at intervals of three to four days to assure proper positioning. Altogether it should be worn for ten to fourteen days.

Not infrequently a person using the heel of his hand as a hammer will traumatize the hamate bone and adjacent tissue. The complaint will be of point tenderness deep in the hypothenar area of the hand, and there may be no external evidence of injury. A felt doughnut pad can be used to good advantage in these cases to guard against direct pressure during work, driving an automobile and other daily activities.

Another outstanding and unusual application of felt is in the treatment of stenosing tenovaginitis. This includes the "trigger" or "snapping" finger syndrome as well as DeQuervain's disease which involves the common sheath of the extensor pollicus brevis and abductor pollicus longus tendon. Both conditions are caused by a thickening of the tendon sheath. It is generally believed the conditions are secondary to chronic inflammation resulting from repeated slight traumas, but as it occasionally occurs in very young children, this belief is subject to question. The pathologic change may vary from hyperplasia of tendon elements to hyaline degeneration. The condition is seen in all stages of development from the tender, thickened nodule on the sheath to the mature "snapping" or "trigger" finger. In my experience, cases that have not progressed to the "trigger" finger complex can generally be cured by the continual wearing of a small piano-felt doughnut held firmly in place by adhesive tape or gauze dressing. This protection prevents further irritation and allows the tendon sheath to revert to its normal unthickened and unswollen state. Once the trigger phenomenon has developed or pain is experienced on active flexion of the tendon, more intensive treatment, consisting of splinting of the moving joints plus use of the felt doughnut, is necessary for recovery. For DeQuervain's disease, a relatively long period of immobilization of the thumb in a fully extended position is necessary. With use of either a commercial splint or plaster of paris, care must be taken to prevent pressure on the point of tenderness by using a doughnut-shaped felt pad.

Pain in the heel is another condition commonly dealt with in industrial practice. It is usually caused by subcalcaneal bursitis. The retroachilleal and retrocalcaneal bursae are less frequently involved. A spur is occasionally present on the plantar surface of the calcaneus, but pain may be present even without the spur, for the problem is usually one of bursal involvement. It is quite possible that a spur may contribute to bringing about or aggravating bursitis when either acute or chronic trauma has come from postural stresses. It is believed that faulty metabolism may play a significant role in precipitating bursitis in this area. as well as elsewhere in the body. The conservative treatment of choice is to apply a felt doughnut pad to the inside of the shoe under the heel so that pressure on the bursa may be avoided (Figure 4). The pad is most comfortable when cut to cover the entire heel surface with only a small hole beneath the painful point. This requires considerable skill, for if the hole is not the right size or is not in the right place the condition may be aggravated. It is helpful therefore to locate the point of maximum tenderness and paint it with a bright dye. The edges of the felt heel and the upper hole are beveled for maximum comfort and desirable fit. The hole should be about half again as big as the area of tenderness. The patient should be instructed to wear this foot-protection until bedtime and not to walk in bare or stockinged feet or soft-soled shoes. Unless he follows these instructions, the expected benefit will not materialize.

Felt can be used very satisfactorily as anterior transverse or longitudinal arch pads in shoes to provide proper support to the feet and additional length for the legs (Figure 4). Symptoms in almost any location of the back and lower extremities that are attributable to posture difficulties can be helped by this simple procedure. Occasionally, symptoms due to a slight shortening of one extremity can be relieved by elevating the corresponding longitudinal arch, although in some cases it is necessary to elevate the foot further by adding various thicknesses of leather to the outside heel of the shoe. If adding supports to the shoe results in alleviation of symptoms, the patient must be instructed not to forego the support between the end of the work-day and bedtime, lest the good that is done be undone in the six to eight evening hours.

Felt shoe pads may be used effectively for relief of a variety of symptoms. They were used at first in treatment of conditions involving impairment of motion of the back. Later it was found they could sometimes be helpful in dealing with some conditions of the lower extremities. Acute distress referable to the sacro-iliac or the lumbosacral joint is easily diagnosed but chronic pain in the lower back often is puzzling. X-ray films may reveal minor changes such as Schmorl's nodules, slight narrowing of the lumbosacral space, minor osteoarthritic deposits and sacralization of the fifth lumbar vertebra. Of much greater roentgenological importance is evidence of lumbar scoliosis, abnormalities of the vertebral facets, rotation of the lumbar spine and elevation of one iliac crest. If any of the more significant findings are present the legs should be measured from the anterior superior iliac spine to the internal malleolus, and if there is pronounced disparity the level of defect should be determined. It may be found to be in the hip area, in an asymmetrical pelvis or in the neck of the femur. Old fractures of the shaft of the long bones may be elicited by questioning.

Next the postural attitude of the ankle joints is inspected. With the patient bearing weight equally on both feet, examination is made for valgus attitude. A mild degree of leg shortening can be corrected with the application of a simple pad to the shoe with elevation of the longitudinal arch. If the defect is great, the heel of the shoe may be gradually increased in height by adding leather lifts, but not more than one-fourth inch at a time. This simple treatment, which is believed to relieve chronic tugging on the back structures due to abnormal, unequal weight-bearing, often greatly alleviates vague aches and pains in the lower back.

Not infrequently, a patient will complain of a dull, aching pain over the medial aspect of the knee, not ascribable to trauma. If the condition is of long duration, the cause is probably not in the knee. Possibly it is referable to a very flat foot. If so, quite often a properly placed supportive pad will bring about rapid recovery. The pad must be worn permanently to prevent recurrence. Baker's cyst must always be considered in any case of pain in the knee. The usual site is the popliteal area. A double felt pad (Figure 4) may be used as a therapeutic test and occasionally will bring about cure of symptoms.

There is one additional condition of the knee which may be helped by the use of a felt pad. A sprain of the knee will usually result in some degree of effusion into the joint capsule. This has a splinting effect, apparently a way the body has of limiting activity of the joint, and for that reason relieving the situation too soon might delay healing. However, if effusion is excessive the stretching of the capsule causes pain, and aspiration is necessary for relief. In cases with moderate effusion, the application of a felt doughnut pad to the knee frequently shortens the total treatment time. Applied with a hole fitting over the patella, the major portion of the pad should be made to lie over the suprapatellar bursa or the superior extension of the capsule. Adhesive strips and an Ace bandage are applied over the entire pad to hold it in place, the hole over the patella being left uncovered, however, for better flexion of the knee. The patient is advised to remove this dressing at bedtime and apply warm compresses for 20 to 30 minutes to encourage dilatation of local blood vessels, then to reapply the pad and bandage. This treatment, which alters the hydrostatic pressure within the synovial sac, promotes an exchange of fluid.

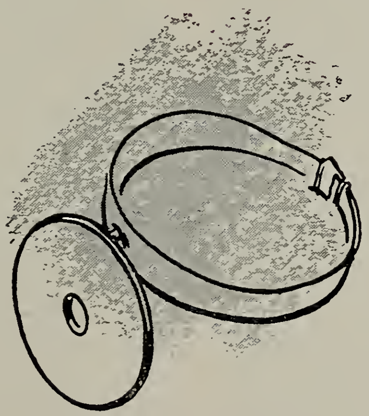
Complaints of pain in the anterior portion of the foot are common in industrial practice, the patient ascribing it to sprain or to trauma from a falling object. There may be a swelling and pinkish reaction over the heads of the second and third metatarsals. The color of the inflammation provides the diagnostic clue, as it is fairly typical of metatarsalgia. Proper application of a piano-felt pad to the foot itself just behind the anterior transverse arch will quickly confirm the diagnosis, as the condition subsides rapidly with this treatment.

Other disorders of the foot, such as bursitis, soft and hard corns and any condition resulting in shifts in weight-bearing to avoid pain can cause symptoms in the lower extremities and back. Application of felt in these conditions can provide an amazing degree of relief.

As is well known, felt is used over many and varied prominences when applying plaster casts. This precludes pressure necrosis of the skin and abnormal pressure over a nerve. In the application of casts to the foot, it is wise to apply a felt pad to the longitudinal arch to maintain its integrity and speed recovery after cast removal. This simple precaution prevents excessive relaxation of the arch.

The most important areas to consider in the use of felt before the application of casts are the posterior surface of the pelvis, the iliac crest and the trochanter of the femur. These pressure points should be well-protected by a large circular piece of felt which encircles the whole pelvis. Care should also be taken to prevent excessive pressure over the proximal end of the fibula lest the peroneal nerve be injured. In the lower extremities the Achilles tendon and the heel area are the most sensitive points. When applying casts to upper extremities the medial epicondyle, olecranon and the styloid of the ulna should all be well protected.

Lockheed California Company, P. O. Box 551, Burbank.



Foreign Body as a Cause of Baffling Symptoms

JOHN H. MEHNERT, *M.D.*, and WILLIAM E. KROUTIL, *M.D.*, San Diego

• In a series of ten cases of illness caused by retained foreign material, the illnesses imitated more common diseases. Many sites were involved and the causes were varied. A correct diagnosis followed by removal of the offending agent resulted in prompt and complete cure in most cases. Unless correctly diagnosed and treated, disease caused by retained foreign body can continue not only with the initial symptomatology but often with secondary complications developing.

Methods by which an accurate diagnosis can be made include detailed and thorough physical examination, endoscopic procedures and radiographic examination. Certain circumstances should arouse suspicion. At times, even with adjunctive measures the proper diagnosis cannot be pinpointed. Early careful operative intervention for diagnosis and treatment then become necessary.

WHEN SYMPTOMS immediately follow the known retention of foreign matter in the body, the diagnosis and treatment are usually straightforward. However, extraneous objects are sometimes introduced undetected or the incident of introduction has been forgotten or the presence of the foreign body is deliberately concealed by the patient. Resultant symptoms may mimic more common diseases, and a misdiagnosis can lead to prolonged unsuccessful treatment.

The following cases were collected from the surgical services of the Rees-Stealy Medical Clinic and the San Diego County Hospital. They demonstrate several instances of retained extraneous material masquerading as routine surgical problems. Although individually these examples represent medical curiosities, all physicians encounter occasional instances and the following reminders may serve to keep this problem in mind.

GASTROINTESTINAL SYSTEM

The unique function of the gastrointestinal system is the ingestion of digestible foreign materials for cellular utilization. Occasional swallowing of indigestible debris is inevitable. If the offending substance is perceived at the instant swallowed or if it causes immediate distress, a correlation between swallowing and the symptom is usually evident. Once swallowed unnoticed, the ingested foreign body is difficult to detect and it is not likely thereafter that vague visceral symptoms can be related to a specific agent. Serious complications can result from obstruction or perforation of the intestinal tract, and are frequently an indication for laparotomy.

Perforation of the intestinal tract by pointed objects is probably the most common complication of foreign body ingestion. It must always be carefully searched for when the cause of acute peritonitis is not readily evident. Although the entire tract must be examined, the sites of predilection for perforation in the lower ileum and cecum[2] must be minutely investigated since the pointed object frequently does not protrude far through the intestinal wall and may not be obvious to cursory examination. Since almost half of ingested sharp foreign bodies are radiopaque,[2] radiographic examination should probably be more routinely performed preoperatively in cases of "acute surgical abdomen."

Obstruction of the intestinal tract can occur from inadequately chewed, firm, difficult-to-digest material, as well as from indigestible foreign bodies. Oranges may be especially dangerous for orange pulp was the cause of obstruction in a case herein as well as in cases reported by Serlin and Wohl[3] and also Butler.[1]

CASE 1. For one month a four-year-old child had had cramping abdominal pain, postprandial vomiting and intermittent fever. Her abdomen was soft, with no tenderness, distention or detectable masses. Peristaltic sounds were normal. Laboratory studies were noncontributory, but multiple dilated loops of distended small bowel were seen in x-ray films in the left upper quadrant of the abdomen. The preoperative diagnosis was that of a congenital band or malrotation causing intermittent intestinal obstruction. At laparotomy a tumor was palpable in the upper jejunum which proved to be a reversed intussusception of the bowel (Figure 1). When the intussusception was reduced a 2.5 centimeter firm object was palpable through the bowel wall, attached proximally by a cord to a second antral mass. Gastrotomy was carried out and a 5-centimeter trichobezoar was removed from the stomach. Extending from the gastric trichobezoar a string of matted hair eighteen inches long reached the upper jejunum. Traction on this string delivered a smaller connecting trichobe-

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Submitted July 10, 1961.

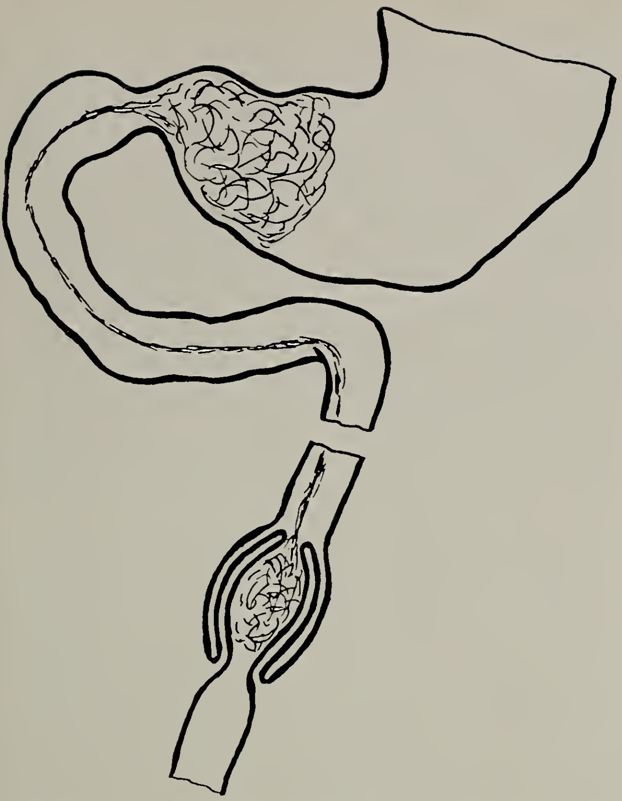

Figure 1 (Case 1).—A diagrammatic representation of the operative findings indicates a trichobezoar in the gastric antrum connected by an 18-inch long string of hair to a second smaller hair ball lying in the jejunum, causing intermittent obstruction and reverse intussusception.

zoar which was the object that had been causing the symptoms.*

CASE 2. A 55-year-old man noticed increasingly severe generalized abdominal pain for three days. No nausea, vomiting or change in the bowel habit had developed. The abdomen was tender with voluntary muscle spasm on pressure, and rebound tenderness most severe in the right lower quadrant. No masses were palpable. The leukocyte content of the blood was above normal limits, with a shift to the left. The initial impression was that of acute appendicitis.

When the appendix was visualized, although it was slightly injected it did not appear to be primarily inflamed. Cloudy fluid was present intraperitoneally and therefore a careful exploration was undertaken. At the duodenojejunal junction there was a slight exudate on the serosa at the base of the bowel just beyond the transverse mesocolon. More careful examination revealed the tip of a toothpick projecting 4 mm. through a perforation in the mesenteric border of the intestine. The toothpick was removed and the patient recovered.

CASE 3. A 60-year-old man had had sudden onset of cramping abdominal pain and vomiting about two hours after breakfast and some 12 hours before admission to hospital. At first the vomitus consisted of food particles and later of large quantities of bile-stained fluid. The patient had had partial gastrectomy with gastrojejunostomy many years previously.

The patient was in moderate distress. The abdominal wall was soft and there was moderate generalized tenderness. High-pitched hyperactive bowel sounds were audible. Laboratory studies were noncontributory. On x-ray examination of the abdomen, dilated small bowel loops with fluid levels were seen. The initial impression was of acute small bowel obstruction due to postoperative adhesions.

At laparotomy dilation of loops of lower small bowel terminated at the ileocecal valve where a firm mass impacted within the bowel lumen was causing obstruction. Opening the bowel released two 4x6 centimeter quarters of an orange.

CASE 4. The patient, a 42-year-old man in the county home for mental defectives, could not give a coherent history. A medical attendant said that the patient had been vomiting for three days and had become increasingly sleepy. The patient was poorly nourished, dehydrated and lethargic. The abdomen was moderately distended. Intense generalized muscular rigidity associated with considerable tenderness was noted. No masses were palpable, and the bowel sounds were absent. A decided increase in banded forms characterized the leukocyte count. Abdominal films showed free intraperitoneal air with multiple dilated loops of small bowel and a distended gas-filled colon. Also apparent in the film was the shadow of an intact oral thermometer lying in the pelvis (Figure 2).

At laparotomy the thermometer was found to be protruding through the medial cecal wall just inferior to the ileocecal valve. It was removed and because of considerable regional inflammatory reaction the cecum was exteriorized and the abdominal cavity drained.

RESPIRATORY SYSTEM

Owing to the constant cycle of respiration and the fact that anatomically the entrance to the tract is poorly guarded, foreign matter frequently invades the respiratory tree. The respiratory epithelium is so responsive to disturbance that most objects are immediately coughed out, but occasionally they are of such size or lie in such a position that coughing does not dislodge them. Conversely, the material may be introduced so insidiously that it is not detected.

An object chronically lodged in the tracheobronchial tree is eventually tolerated and secondary symptoms of obstruction and inflammation become predominant over the acute awareness of an object

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*This case courtesy Dr. A. E. Moore, San Diego.

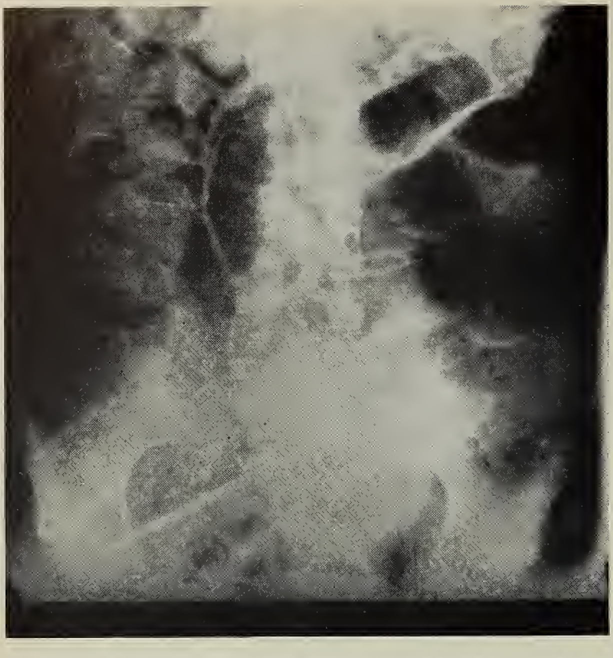

Figure 2 (Case 4).—On a supine abdominal roentgenogram the large and small bowel both are gas filled and distended. The outline of an intact thermometer is seen in the right lower quadrant.

to be ejected. In this circumstance the symptoms and findings are easily confused with those of other respiratory diseases.

Case 5. A 57-year-old man was examined because fibrotic changes were seen in the right lower lung field in a mass x-ray survey. He had no complaints and there was no history of lung disease. Previous chest x-rays had been normal. The thorax was entirely normal to physical examination. The reaction to a tuberculin skin test with second-strength tuberculin was 4 plus, but the reactions to other skin tests were negative. X-ray examination of the chest revealed a segmental area of atelectasis and fibrosis in the zone of the right middle lobe. No abnormality was observed on bronchoscopic examination and studies of the bronchial aspirate for tubercle bacilli and malignant cells were negative. The tentative diagnosis was segmental obstruction of the right middle lobe, possibly due to carcinoma.

At thoracotomy a firm, indurated area was noted within the lateral aspect of the middle lobe, and lobectomy was performed. The operative specimen contained a hard subpleural tumor measuring 3 by 1.5 centimeters. Microscopically the mass showed zones of dense fibrosis within which were numerous fatty vacuoles and scattered giant cells. Sudan stains established the diagnosis of oil granuloma due to hydrocarbons.

Case 6. A 56-year-old man had an intermittent productive cough which persisted for two years. When first seen he was raising approximately one-half ounce of purulent and occasionally blood-tinged sputum each day. The patient reported increasing dyspnea but not enough to limit his activity. He also mentioned a severe episode of coughing which occurred while he was eating a rabbit dinner about six months before the onset of the symptoms. This paroxysm was followed by a cough which persisted for about two weeks. No abnormalities were noted on physical examination. Results of all laboratory studies including a Papanicolaou examination of the sputum were within normal limits. Roentgenograms revealed an oval 2-centimeter homogeneous density at the lower pole of the right hilum with an associated atelectatic wedge extending into the posterior aspect of the right base. Bronchoscopic examination showed that the right main stem bronchus was filled with secretions and partially occluded by an inflammatory process. A biopsy specimen contained only chronic granulation tissue.

At thoracotomy the right lower lobe was observed to contain segmental atelectasis and consolidation. A large discrete mass was palpable near the hilum. Lobectomy was performed for "probable bronchogenic carcinoma." Postoperatively, opening the bronchus to the right lower lobe uncovered a stony-hard oval foreign body of 1 centimeter in diameter. Distally the respiratory tree was bronchiectatic and filled with mucopurulent material. An organizing pneumonitis was found throughout the lower lobe. The foreign body proved to be a bone.

FOREIGN BODIES INTRODUCED BY PATIENTS

The genitalia and other erogenous areas of the body must always be suspect of self-induced disease. The exclusion by history of insertion of objects into the genitourinary tract is usually unreliable due to an understandable reticence of patients to admit the act. Also, since materials may be retained for long periods before secondary infection or obstruction causes symptoms, the relationship to a previously inserted object may be nebulous. For these reasons, a nonradiopaque foreign body may be treated symptomatically for long periods before further investigation establishes the diagnosis.

In the soft tissues of the secondary sexual zones, foreign matter may cause local tenderness by irritation, may have a tumor mass form about it or may lead to formation of chronic sinuses secondary to resultant inflammation. When the introduction of the material is not noticed at the time of entrance, removal of the irritant may not be carried out until extensive etiologic studies are completed. Symptomatic therapy may be ineffective if not harmful.

Case 7. A senile 79-year-old man had a history of dysuria for one year and associated intermittent gross hematuria for six months, with nocturia and hesitancy of the stream. The only abnormal physical finding was suprapubic tenderness. Examination of the blood revealed microcytic anemia. The urine contained albumin and many erythrocytes, but no leukocytes or bacteria were seen. The clinical impression of the examiner was that the patient had a bladder tumor. However, a kidney-ureter-bladder film revealed intravesical calculi with identifiable associated radiopaque foreign bodies (Figure 3).

Because of their large size the calculi were removed by suprapubic cystostomy. The specimens consisted of two calculi, one 3.5 centimeters and the other 1.5 centimeters in diameter. From the larger calculus a piece of pipestem cleaner protruded. A separate 7-centimeter length of pipe cleaner was found lying free in the bladder.

Case 8. A 54-year-old man who had had gradual enlargement of the breasts over a period of two years following the use of oral estrogens prescribed by his physician, denied any regional injections. The breasts had developed to a size requiring the use of a brassiere. A month previously an abscess spontaneously developed in the right breast. It drained spontaneously and a chronic sinus tract resulted. Except for the great hypertrophy of both breasts, results of physical examination were within normal limits. The parenchyma of the breasts was irregularly nodular bilaterally. On the right there was a sinus tract at the lateral margin of the areola. Preoperatively it was thought that the patient had benign hypertrophy from hormone stimulation.

A bilateral simple mastectomy was carried out without difficulty except for delayed wound healing. On microscopic examination of the specimens a dense overgrowth of collagenous cellular stroma throughout, which were numerous defects surrounded by histiocytes and giant cells, were noted. A foamy lipoid substance was scattered widely throughout the stroma of both breasts. The pathologic diagnosis was exogenous lipoid granulomas of both breasts.

SURGICALLY INTRODUCED FOREIGN BODIES

Despite elaborate safeguards foreign materials sometimes are inadvertently left in a space or tissue of the patient's body after an operation is completed. Whenever a close relationship between a previous treatment and subsequent disease exists, the possibility that the sequelae might be due to materials involved in the original therapy must be carefully considered. Unfortunately, the disease occasioned by the retention of foreign material can sometimes be as chronic and severe as that of extensive malignant change.

Case 9. During routine physical examination a 52-year-old woman was found to have a tumor in the right breast. There were no symptoms referable to the area. Twenty-nine years previously she had had an excisional biopsy of a right breast mass which proved to be a benign lesion. On the breast was a well-healed scar. Adjacent to the scar, at the margin of the areola, there was a tender, firm, 2-centimeter nodule with puckering and retraction of the overlying skin, but with no deep attachment. A single large right axillary node was palpable.

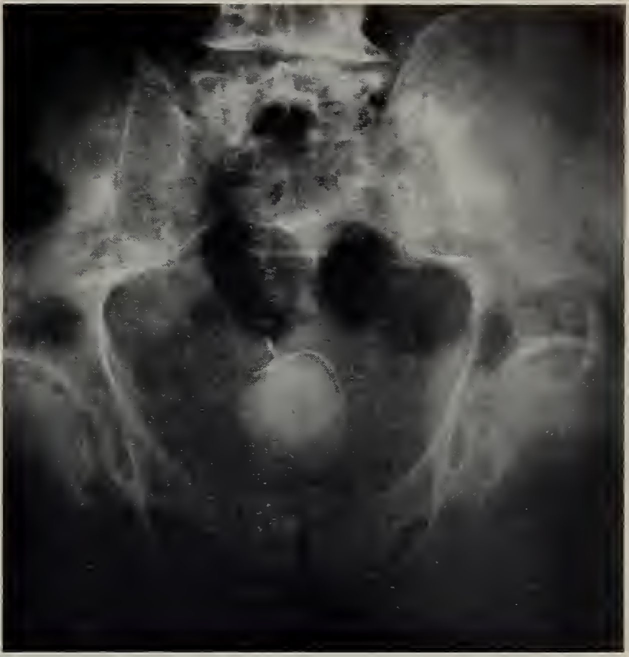

Figure 3 (Case 7).—This kidney-ureter-bladder film clearly reveals the rounded shadows of two radiopaque intravesical calculi and the associated foreign bodies which proved to be pieces of pipestem cleaner.

An excisional biopsy was carried out because carcinoma of the breast was suspected. On examination of the mass, a cyst which contained a piece of rubber drain was noted immediately beneath and adherent to the skin.

Case 10. A 34-year-old woman was operated upon elsewhere for a removal of a uterine fibroid tumor and two years later repair of an incisional hernia was carried out. The hernia immediately recurred and was progressively enlarging. Constipation and urinary incontinence had developed. On examination a large incisional hernia in the right lower abdomen was noted. Deep in the hernial sac a firm immovable nodular mass was palpable. It seemed to extend into the right pelvis. Gastrointestinal x-ray studies were interpreted as indicating a probable perforation of the small bowel or colon with a resultant localized abscess. Preoperatively it was thought that the bowel perforation and the mass were probably secondary to intra-abdominal carcinomatosis.

When the abdomen was opened an extensive inflammatory process was found in the pelvis. This mass arose in a fistula from the transverse colon. The colon was opened and a large laparotomy pad was removed from the lumen. The transverse colon was repaired, but a necrotic area was then found in the sigmoid colon and a double-barreled descending colostomy was carried out.

About a month after this operation the colostomy was closed. Soon afterward a pelvic abscess drained spontaneously through the vagina. A few weeks later an x-ray study with barium enema demonstrated a fistula between the transverse colon and the small intestine. Approximately half a year following the original operation the patient had another laparotomy to repair the enterocolic fistula. The fistula was resected and the small bowel and colon were closed separately. Postoperatively a low grade intra-abdominal inflammatory process continued, with resultant pain and diarrhea to the time at which she was lost to observation.

Rees-Stealy Medical Clinic, 2001 Fourth Avenue, San Diego 1 (Mehnert).

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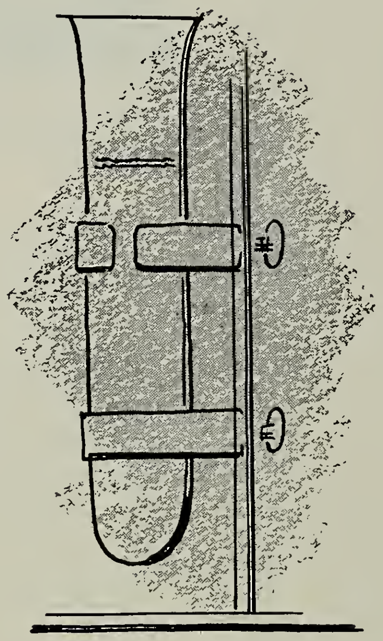

Repair of Injuries to Soft Tissues of Fingers

Primary and Secondary Reconstruction

RICHARD I. GONZALEZ, *M.D.*, and HARRY J. BUNCKE, JR., *M.D.*, San Mateo

• Preservation of maximum function and appearance of the finger can best be attained by wide excision of crushed or traumatized tissue and closure of defects by primary split thickness skin grafts. Primary pedicle flaps are rarely indicated and should be reserved for cover of denuded cortical bone or joint surfaces. In only 1 per cent of fresh injuries were primary pedicle flaps used. Finger length, nail bed and root, bone and tendon can be adequately preserved with minimal morbidity by split thickness skin grafts. Restoration of contour if necessary is best done secondarily, utilizing thenar or hypothenar flaps. These flaps are particularly indicated in the reconstruction of finger tips.

The goal of treatment of severely injured fingers is reconstruction of the finger to normal appearance and function. The authors have been helped in achieving this end, with minimal morbidity, by following principles which may not be generally accepted.

Over the past three years we have performed 346 reconstructive procedures in cases of acute and secondary soft tissue problems (Table 1). Two hundred thirty-one of the procedures were carried out in cases of acute injury, all of them complicated by crushing or avulsion of soft tissue; and in some of them there was tendon or bone damage as well. Simple, sharply incised wounds were not included in this series.

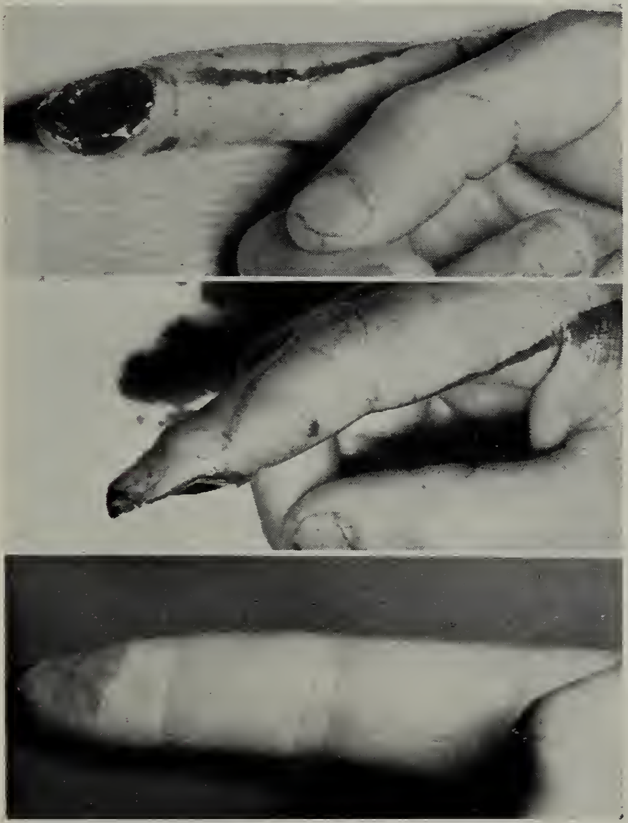

Figure 1.—Typical fresh, avulsive finger tip injury treated by primary split thickness skin graft producing an asymptomatic finger without loss of function. Secondary reconstruction not indicated.

We are convinced that proper management of the acute injury is the most important factor in attaining the eventual optimum of appearance and function. Delayed healing, swelling or infection may result in secondary joint stiffness, tender amputation stumps or tender scars. Therefore, our whole concept of treatment of the acute injury turns upon primary healing. This we feel is best accomplished by wide debridement, closure of wounds without tension, liberal use of split-thickness grafts, adequate splinting and prevention of swelling.

Believing that restoration of contour or length should always be deferred, we feel that primary flaps are almost never justified. Flaps were used in only three instances in the treatment of the 231 cases. We believe that flaps are justifiable only if needed to provide covering for denuded proximal or middle phalanges or bare joint surfaces. In all other instances, split thickness grafts are by far the best for cover. Grafts take well on cancellous bone,

TABLE 1.—*Data on Reconstructive Procedures for Repair of Injuries of Soft Tissue of Fingers*

	Number	Per Cent of Total Number
Total number of procedures (1957-1960)	346	....
Primary reconstructive procedures	231	67
Delayed healing following primary treatment (3 weeks or longer)	11	5
Primary split thickness grafts	97	42
Primary pedicle flaps	3	1
Total secondary reconstructive procedures	115	33
Secondary procedure following primary care by us	41	17
Total secondary pedicle flaps	34	29

Submitted October 25, 1961.

exposed tendon or joint capsule. Split grafts contract, mobilizing surrounding soft tissue and by so doing decrease the size of the defect (Figure 1). It is possible to maintain maximum finger length by the use of split thickness grafts and in many cases preserve nail root and portions of nail bed that are so important in achieving normal finger appearance (Figure 2).

Results of Primary Reconstruction. Split thickness grafts were used in 97 of 231 cases of primary reconstructions. There was delayed healing (three weeks or more) in 11 instances. Secondary reconstruction was indicated in 41 of the 231 cases.

Secondary Reconstructive Procedures. A total of 115 secondary reconstructive procedures were carried out. These included 81 simple excisions and

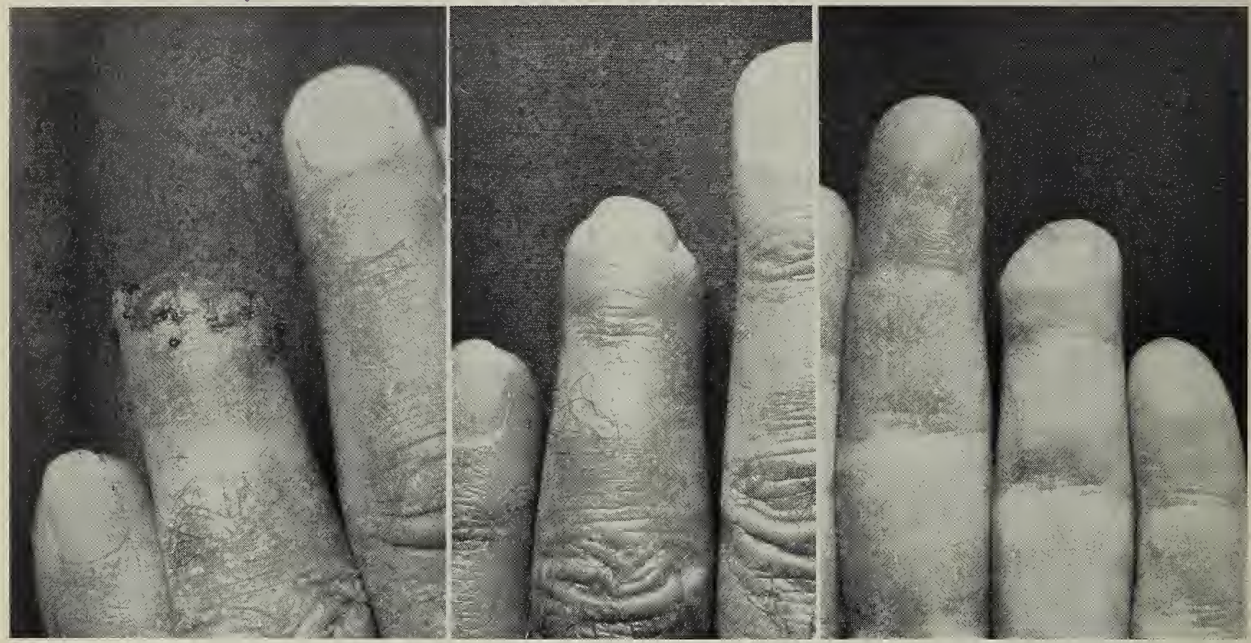

Figure 2.—Traumatic amputation of distal half of distal segment of ring finger treated by primary split graft demonstrating early healing and preservation of appearance and length by this method of treatment.

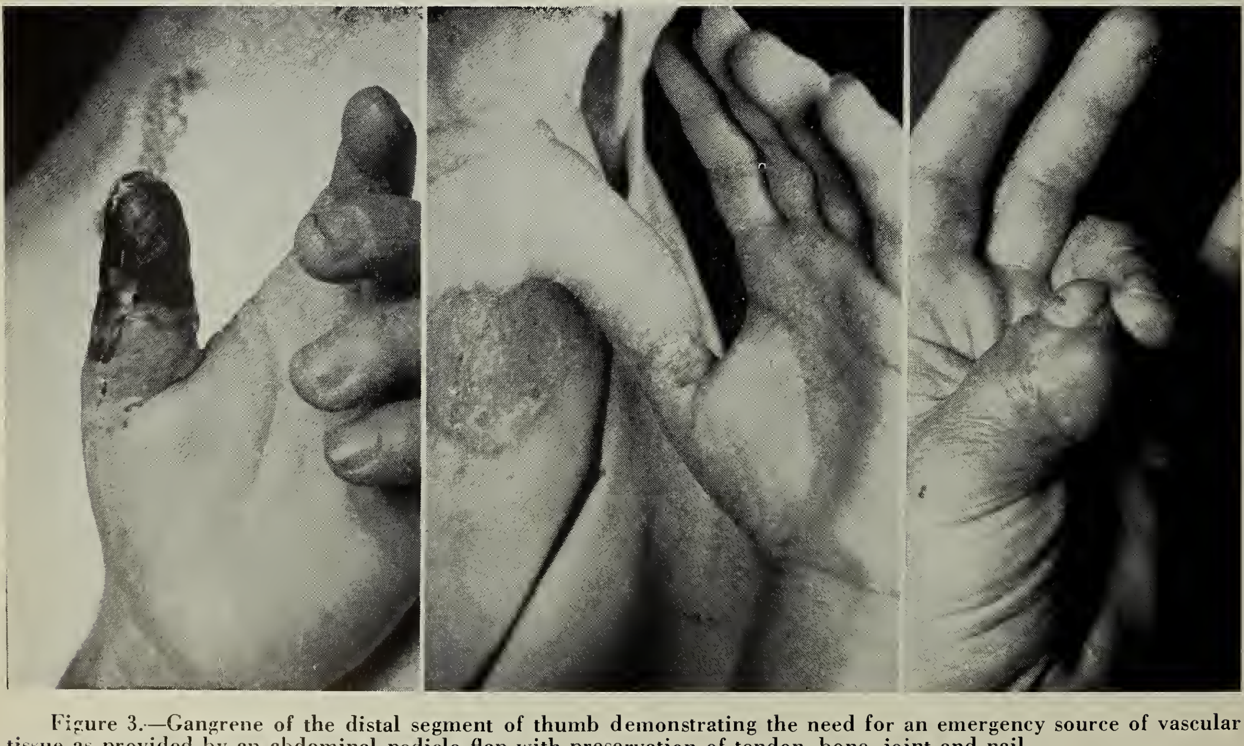

Figure 3.—Gangrene of the distal segment of thumb demonstrating the need for an emergency source of vascular tissue as provided by an abdominal pedicle flap with preservation of tendon, bone, joint and nail.

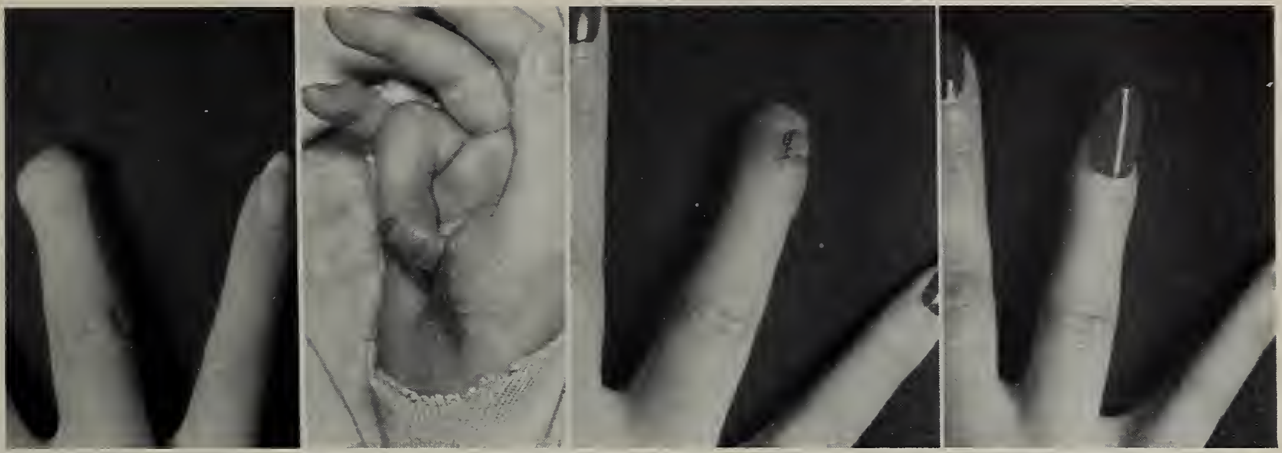

Figure 4.—Prosthetic method of nail reconstruction. Picture at far right shows nail in place, cemented to nail remnant and stabilized by encircling suture passed through a skin-lined finger pulp tunnel.

advancements and 34 cases in which pedicle flaps were used to restore contour and length. We preferred thenar or hypothenar flaps whenever possible. The advantages of proximal palmar tissue over dorsal finger skin or abdominal tissue is its anatomical similarity to volar finger skin (good color and texture match) availability of tissue and minimal residual deformity of the donor area. We find it very difficult to obliterate the exposed donor sites of cross finger flaps. Abdominal skin is so unlike finger skin that it is used only as an emergency source of vascular tissue (Figure 3). Morbidity following the use of flaps was limited to one instance of temporary mild flexion contracture of the middle joint following detachment of a thenar flap. No portions of flaps were lost. We did not detach the flaps before 21 days. Complete coverage of raw areas (flaps or donor sites) decreased superficial infection and minimizing swelling and secondary stiffness.

Nail reconstruction. Secondary fingernail reconstruction by standard methods (free nail grafts, toe to finger pedicle transfers) was disappointing. In a few instances we attempted to solve this problem by manufacturing a recipient site for a prosthetic nail. Figure 4 illustrates the use of a thenar flap to restore tip length and create a nail bed. A skin lined tunnel, through which a fixation suture could be passed, provided stability for the removable prosthetic nail.

Results Following Secondary Reconstruction. There were no instances of delayed healing (in excess of three weeks), permanent joint disability, residual tenderness or inadequate padding of finger tips. In cases not involving tendon and bone, there was no final limitation of extension or flexion. There were no complaints by patients regarding the multiple secondary reconstructive procedures recommended by us, nor dissatisfaction regarding the final result. Patients as a whole greatly appreciated our efforts to preserve the length and appearance of their injured fingers. The only expression of displeasure noted was regarding the absolute necessity of primary amputation of devitalized fingers. Not all fingers can be preserved, but the surgeon should resist the temptation of shortening fingers or amputating fingers merely to get the patient back to work. Split grafts will enable the patient to return to his job and will preserve the finger for secondary reconstruction.

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A Ten-Year Study of Anencephaly

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• The incidence of anencephaly at the Los Angeles County General Hospital during the period of July, 1948 through June, 1958 was 0.049 per cent. Worldwide the range of reported incidence is 0.012 per cent to 0.671 per cent.

In this study 65 per cent of the total number of anencephalics delivered were females, a predominance agreeing with reports by other investigators.

Polyhydramnios appeared in 38 per cent of the anencephalic pregnancies of this study, while 15 per cent of the deliveries were complicated by placenta praevia.

A significant number (48 per cent) of the multiparae gave a history of previous stillbirths or abortions.

The present study does not support observations by other investigators which indicated an increase in anencephalic births during the winter months.

Evidence from stillbirth statistics would seem to indicate that anencephaly is primarily a genetically induced phenomenon. Further evaluation and analysis of the predominance of females in anencephalic stillbirths and abortions is suggested, in order to study whether the observed secondary or birth sex ratio (in which males predominate) is, in fact, due to genetic effect.

ETIOLOGIC STUDIES of anencephalic births have not been conclusive enough to establish whether the phenomenon is attributable to genetic or to environmental factors and no single theory has received wide acceptance.

Ingalls[16] emphasized the need for further statistical reports. He suggested that first the incidence of congenital anomalies in a community be determined; then a combined medical interdisciplinary effort could have basis for evaluation of corrective measures taken to reduce the incidence of such abnormalities.

Further investigation into the nature of congenital anomalies such as anencephaly may offer clarification of the genetic implications of the incidence of abortion and malformation.

To this end an analysis was made of the cases of anencephaly at the Los Angeles County General Hospital during the period July, 1948, through June, 1958.

There were 48 anencephalic births in 97,381 deliveries at the Los Angeles County General Hospital during the ten-year period of this study, an incidence of 0.049 per cent. Penrose,[23] in a survey of the world literature, noted a range from 0.012 per cent to 0.671 per cent. The broad incidence range apparently has some relationship to the geographical area in which the study of anencephaly is made.

The *British Medical Journal*,[7] in an editorial review, reported that in Belfast and Dublin the incidence is 0.671 per cent and 0.502 per cent respectively. The reported rate in these two cities is three times greater than in Birmingham, England, and fifty times greater than in Lyons, France. In the United States the incidence in various studies has ranged from 0.057 per cent to 0.231 per cent (Table 1).

Sex Ratio

In the present study the females numbered 65 per cent of the total. As noted by MacMahon and McKeown,[17] the proportion of males increased with the length of gestation. In this study 69 per cent of the 35 anencephalics born prematurely were females while only 54 per cent of the 13 anencephalics born at term were females. No satisfactory explanation has yet been put forward[7] for the higher incidence in females, the range being from 57 per cent to 87 per cent in various reports.[13]

The question of whether examination of the external genitalia gives a valid indication of the true sex of the anencephalic was raised by Perrin and Benirsche.[24] They reviewed slides of 35 anencephalic fetuses to compare the results of nuclear or somatic sex with that of the observed external sexual characteristics. They reported that the "nuclear sex" was in accord with the sex as recorded by external examination, and that in the review of sections of gonads no hermaphrodite abnormalities were noted.

In 1959 Bearn[1] investigated the relationship of the nuclear chromatin of anencephalics to their phenotype. He indicated that the predominance of females may be related to sex reversal with failure of masculinization of the genital tract. This initial hypothesis was related to the reports that the small adrenal gland of the anencephalic was due to an abnormal pituitary gland. Pituitary and adrenal hypoplasia are found consistently in anencephaly.

From the Los Angeles County General Hospital, Los Angeles 33.
Submitted August 1, 1961.

TABLE 1.—*Incidence of Anencephalus in the United States*

Area, Author and Year Reported	Period	No. Births	No. Anencephalics	Per Cent of Total
Rhode Island, MacMahon, et al., 1953	1936-52	168,654	326	0.193
Rochester, Minn., Harris & Steinberg, 1954	1944-50	8,716	5	0.057
Fall River, Mass., Hurwitz, 1955	1948-54	5,264	15	0.280
Wilmington, Del., Monahan, 1956	1954-55	12,529	11	0.087
Boston, Mass., Stevenson, et al. (Böök and Francaro, 1956)	1930-41	29,024	67	0.231
New York, New York, Marcus & Brandt, 1957	1948-57	11,946	26	0.22
Los Angeles, Calif., Smilkstein, 1958	1948-58	97,381	48	0.049

However, Bearn's investigation of 24 anencephalic fetuses demonstrated that the 21 chromatin-positive fetuses had normal female external genitalia and that the 3 chromatin-negative fetuses had normal male external genitalia.

Race

The data from the Los Angeles County General Hospital are of special interest since this hospital serves basically three racial groups: Caucasian, Mexican-Caucasian, and Negro. The total number of anencephalic births was divided 15, 15 and 18 respectively (Table 2). When correlated with the total number of deliveries by each racial group, these figures would suggest that the incidence of anencephaly is not necessarily equal; for Caucasians make up 24.1 per cent of the total deliveries, Mexican-Caucasians 30.7 per cent and Negroes 44.0 per cent. In all cases in this series the fathers were of the same race as the mothers.

Polyhydramnios and Placenta Praevia

In this series, 38 per cent (18) of the pregnancies were associated with polyhydramnios and 15 per cent (7) were complicated by placenta praevia. It would appear that polyhydramnios is one of the most common associated factors of the anencephalic pregnancy. Reported incidence of polyhydramnios varies from 50 to 69 per cent.[13] The incidence of placenta praevia in this series was 15 times as common as in the general population.[2]

Previous Abortions and Stillbirths

A total of 16 abortions and 11 stillbirths were previously experienced by the mothers of anencephalic offspring. Forty-eight per cent of 35 multiparae gave a history of previous stillbirths or abortion or both. Similar observations have been made by Böök and Rayner,[3] and Record and McKeown.[25]

In Coffey and Jessop's[5] series of 137 cases of anencephaly, 26 of the 98 multiparae had previously given birth to a congenitally abnormal baby. Seven of the multiparae had delivered anencephalics. In a second study reported in 1958, Coffey and Jessop[6] reported that 9 of 122 had previous anencephalic births.

TABLE 2.—*Frequency of Anencephaly According to Race, Age of Mother and Order of Birth of Infant*

Caucasian	15
Caucasian-Mexican	15
Negro	18
Mother's age (years):	
19 and under	9
20 to 24	18
25 to 29	12
30 to 34	5
35 and over	4
Order of birth:	
First	13
Second or third	14
Fourth to sixth	13
Seventh or beyond	8

TABLE 3.—*Seasonal Variation in Anencephalic Births*

Seasons	Anencephalic Births
November, December, January, February	15
March, April, May, June	18
July, August, September, October	15

Associated Anomalies

In 35 per cent of the anencephalics, associated congenital anomalies were reported. Central nervous system abnormality was present in 11 cases, in 3 of which it was spina bifida.

Anomalies reported were rachischisis totalis, Arnold Chiari syndrome, meningomyelocele, encephalomeningocele, cyclopia, agenesis left eye, hydroureter, horseshoe kidney, hypoplasia right kidney, Eisenmenger's complex, club foot, cleft palate, hare lip and syndactaly.

Seasonal Variation

The seasonal variation as reported by McKeown and Record[21] and Edwards[8] is not supported by this study (Table 3). Their studies done in the British Isles indicated that stillbirth rates attributable to anencephaly were approximately 50 per cent greater in winter months than in the summer. In the present study an almost equal distribution through the year was noted. While it might be suspected that the rather uniform climate in Southern California accounts for the absence of a seasonal variation in the birth rate, MacMahon and coworkers[18] were unable to find a seasonal influence in the incidence of anencephalics in a Rhode Island series.

DISCUSSION

The etiology of anencephaly is a most challenging problem. Coffey and Jessop[6] pointed out the many difficulties in the establishment of a genetic and/or environmental basis for anencephaly.

Ingalls,[14] Hicks[12] and Evans and coworkers[9] showed that by the exposure of the experimental animal to adverse environmental situations such as anoxia, ionizing radiation and vitamin deficiency, central nervous system anomalies, including anencephaly, can be produced. However, statistical checks to investigate a possible relationship between environmental stresses and the incidence of anencephaly in humans have proven inconclusive in the following areas: Attempted abortions, war years, malnutrition, chemical poisons, alcohol, tobacco, food preservatives, hormones and mechanical trauma (Edwards,[8] Penrose[23] and Coffey and Jessop[5]).

Anencephaly has been reported in one of a pair of uniovular twins.[26] In this instance the action of an environmental factor should be considered either alone or as influencing the hereditary constitution of one twin.

Environmental factors, such as illness during first trimester, previous medical illness and abnormal menstrual history, appeared infrequently in patients' histories in the Los Angeles County General Hospital study. With regard to environmental factors, Coffey and Jessop[5] reported that in their study of 137 cases of anencephaly they noted no significant difference from their controls.

A higher incidence of anencephaly in children of parents in older age groups was early reported by Malpas.[19] However, the present study does not support such a finding (Table 2). Record and McKeown[25] and Böök and Rayner[3] considered age of the mother of little bearing, whereas an association with order of birth seemed to be of some significance.

Edwards,[8] in an extensive study of congenital malformations of the central nervous system in Scotland, noted that "improved social conditions which have led to a great reduction in most other causes of stillbirths, have not influenced the year to year rate of anencephalic births."

In 1936 Bonnevie[3] demonstrated a lethal recessive gene in mice, termed *pseudencephaly*, which results, in most cases, in a major disturbance which causes death of an embryo followed by absorption in utero or abortion.

The abortion rate in mothers who bore an anencephalic child was 37 per cent in the present study. It was reported at 20 per cent by Böök and Rayner.[3] Hertig[11] in 1954 reported that the abortion rate of anomalous fetuses is about four times the incidence of anomalous children born either alive or dead.

In a study of 181,548 stillbirths, Ciocco[4] found the total male stillbirths to be 103,642, and the total female stillbirths, 77,906. When Ciocco divided the total stillbirths into subgroups according to the cause of death, in only one category, malformations, were there more female stillbirths than male. Of 10,301 stillbirths due to malformations, the ratio was 748.9 males to 1,000 females. It is of interest that in the other categories for causes of stillbirths, such as maternal disease, fetal injury and anomalies of the placenta and cord, in which environmental factor rather than genetic disease would be the primary consideration, the stillbirth sex ratio showed a predominance of males.

A question that might be considered is whether the sex ratio of anencephaly in humans, which shows a predominance of females, can be explained on other than a genetic basis. It is of interest that in the report of Ingalls and coworkers,[15] in which pregnant white mice were exposed to varying degrees of oxygen lack, the offspring of the test mice in which congenital anomalies were produced showed essentially the same sex ratio as the offspring of the control group. This point is raised since it seems plausible to hypothesize that when a noxious agent is introduced in the postfertilization stage both sexes should be affected equally; however, when an effect makes itself known by altering the somatic structure of primarily one sex, a prefertilization or genetic mechanism should be suspected.

Further genetic studies may be indicated to evaluate the effect of loss of embryos through *in utero* absorption and abortion, in which females outnumber males (as is the case in anencephaly). Such studies may help to explain the observed secondary sex ratio in the general population in which males outnumber females.

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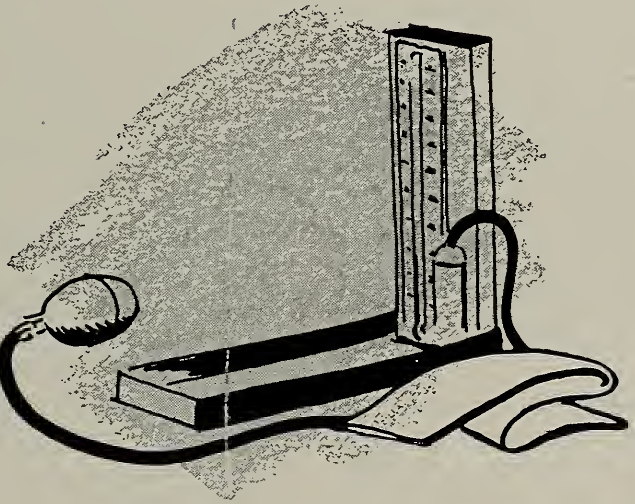

Human Dural Homografts

Freeze-Dried Human Dura Mater for Closure of Dural Defects

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• Freeze-dried human dura mater homograft has proved a highly successful, readily available and conveniently stored material for closure of dural defects.

The material was used in three patients with good results as appraised after observation for periods of from two months to two years after operation.

The freeze-dried dural homograft offers certain advantages over plastic implants, with regard to tissue acceptance by the host and more physiologic tissue response.

AN INDICATION of the importance placed on the closing of dural defects which occur with craniocerebral trauma, neoplasms or congenital defects is the number of materials which neurosurgeons have used as dural substitutes in recent years. While the British place less emphasis upon closing the dura, American surgeons make every effort to reduce the complications which may follow an open dura—cortical adhesions and cerebral seizures, cerebrospinal fluid fistula, cerebral fungus formation, failure of later cranioplasty due to cerebrospinal fluid fistula or infection.

Among the substances used to replace dura mater have been autogenous transplants of fascia lata, dura mater, pericranium, temporal fascia, muscle and fat.

Various metals have been tried, among them gold, platinum, silver, aluminum, nickel, stainless steel and tantalum.

Softer materials have been inserted in place of dura—rubber sheet, parchment, gutta-percha, celluloid, cellophane, human amniotic membrane, amnioplastin, beef allantoic membrane, and Cargile membrane.

Recently plastic materials have been used, the list including polyvinyl alcohol film, fibrin film, gelfoam film, polyethylene film, gelatine film, orlon and vinyon "N."

Because each dural substitute has had some disadvantage, either theoretical or practical, search for the ideal substance continues. This report of the use of human freeze-dried dura for closing dural defects is not intended to claim the superiority for it over other materials, but to point up its availability and to record the successful use of preserved human dura mater, in agreement with the reports of Sharkey and Campbell.

Dura has been among the last of the banked tissues to be tried for surgical replacement procedures. Various methods for preserving it have been tried, ranging from freeze-drying in extreme degrees of cold[3] to sterilization by exposure to ethylene oxide[5] and beta-propiolactone.[6] Bone, cartilage, artery, cornea, and skin have all been used. Each tissue, being a free graft, serves primarily as a matrix for fibroblastic activity. In the case of arterial homografts, the grafts remain in place even after four years, and on examination it has been found that fibrous tissue from the host has covered the graft on both sides.

The dural homograft has been studied microscopically after placement.[5] It too is partially replaced by fibrous tissue from the host. It is increased in thickness two or three times, but still is quite pliable and soft in texture. There is no evidence of foreign body reaction or excessive scar formation. From these observations, it is assumed that the dural homografts are gradually replaced by fibrous tissue. The dead dural graft remains intact during the slow process of replacement.

Sterility of the grafts has been assured by repeated cultures. However, the use of antibiotics after the placement of freeze-dried dura is advisable, since it may be considered a foreign material.

MATERIALS AND METHODS

The freeze-dried dura mater used in these cases was made available through the kindness of Captain George W. Hyatt, M.C., U.S.N., who, with his associates at the Tissue Bank of the U. S. Naval Medical School, Bethesda, Maryland, tested its efficacy in animal experimentation[4] and certified its sterility after cultures.

The dura mater as produced by the Tissue Bank became available after a technique of freeze-drying for processing and storage of dura mater and other

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Submitted September 13, 1961.

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tissues was perfected. The tissues are obtained from acceptable cadavers.[3] The dura mater is removed under aseptic conditions and rapidly frozen at temperatures ranging from –78° C. to –196° C. While still frozen, the tissues are placed in a vacuum chamber until dried by sublimation and then stored in vacuum sealed bottles.

Tissues preserved in this manner may be stored for years at room temperatures as long as the vacuum is maintained. When a freezer-dried tissue is immersed in warm sterile normal saline solution for 10 minutes, it quickly regains pliability to permit surgical handling. The reconstituted dura mater has a tensile strength about that of fresh dura mater.

Lyophilized dura mater as prepared by Sharkey is obtained at autopsy, sterilized by immersion in ethylene oxide, then freeze-dried. The finished product is packaged in Pyrex glass tubes, sealed in an atmosphere of nitrogen. It is soaked in warm normal saline solution for 10 minutes to make it ready for use.

REPORTS OF CASES

The cases reported here vividly illustrate some of the complications which occur when the dura mater is not carefully closed at the time of primary handling of the craniocerebral injuries. They also point up the importance of keeping on hand some form of dural substitute in hospitals that deal with severely injured patients. Fortunately, there is now available lyophilized human dura from a commercial source* and freeze-dried dura mater from the U. S. Naval Medical School Tissue Bank, Bethesda.†

CASE 1. The patient, a 28-year-old, right-handed woman, was admitted in emergency to Memorial Hospital of Glendale on February 17, 1959, following a gunshot wound with a 38-caliber bullet at very close range, the bullet passing through the right posterior parietal area.

The patient was semi-comatose, crying loudly, disoriented and unaware of surroundings. Right peripheral facial paralysis, left hemiparesis and positive Babinski sign on the left were noted, with deafness to loud noises on the right. Roentgen examinations of the skull revealed a 38-caliber bullet lodged in the middle fossa and fracture of the petrous ridge on the right.

Right temporal osteoplastic craniotomy was carried out, with debridement of scalp, temporal bone, dura and brain, partial temporal lobectomy and removal of the bullet.

The patient made a good recovery, but right cerebral spinal fluid otorrhea developed due to a dural tear in the floor of the middle fossa and fracture of the petrous ridge which could not be repaired at the time of the original operation.

On March 6, 1959, freeze-dried dura having been obtained, closure of the dural defect in the right middle fossa over the petrous ridge of the temporal bone was performed with a homograft of the substitute material. The fracture site was first sealed with bone wax and gelfoam, after which complete closure of the dural defect was made with freeze-dried dural homograft measuring 1.5 centimeters by 3 centimeters. A second dural flap measuring 3 centimeters by 8 centimeters was placed over a lateral tear in the dura to make a water-tight closure over the defect made by penetration of the bullet.

The patient made excellent recovery and the cerebral spinal fluid otorrhea ceased. Neurological examination revealed complete nerve deafness of the right ear, complete peripheral facial palsy, hypesthesia over the second and third divisions of the trigeminal nerve on the right, left hemiparesis and slight spasticity and incoordination of movements of the left hand as compared with the right.

Because of the peripheral facial paralysis and the partial involvement of the fifth cranial nerve as well, a right spinofacial anastomosis was performed March 13 to compensate for the complete severance of the seventh cranial nerve in the petrous portion of the temporal bone. The spinal accessory nerve was selected in view of the fact that the patient had an existing fifth and seventh nerve involvement. To add a hypoglossal palsy on the same side would have meant considerable drooling. For this reason, the eleventh cranial nerve was selected.

The patient was discharged one week following this last procedure. After six months she was walking and speaking normally, facial asymmetry was improving a little and some beginning of facial movements was noted.

A year after the operation the patient had excellent tonus of the left side of the face at rest. There was still asymmetry, but she had some voluntary movements of the face and the eye on attempted movement of the right shoulder. Meantime the patient had had a successful pregnancy and delivery.

On February 17, 1961, two years after the gunshot wound and the placement of freeze-dried dural homograft from the U. S. Navy Tissue Bank, the patient was doing exceptionally well. There was no reaction; she had had no cerebral seizures, and except for minor headaches was carrying on her normal activity as a mother.

CASE 2. The patient, a 17-year-old, right-handed boy, had a gunshot wound of the head, the bullet entering the left frontal area, going through the frontal cranium into the parietal area and a fragment lodging in the occipital lobe on the left side.

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*Taylor Laboratories, Inc., Houston, Texas.

†U. S. Naval Medical School Tissue Bank, Bethesda, Maryland.

The patient was immediately admitted to hospital and incomplete debridement of the scalp, cranium, dura and brain was performed. No attempt was made to debride the brain or to remove the bullet for fear of increasing the extent of tissue damage. The brain was merely covered with gelfoam and a large dural defect was still present. The scalp was closed with wire over a large cranial opening.

Ten days later the patient was transferred to the Memorial Hospital of Glendale. A cerebrospinal fluid fistula had developed through the scalp incision in the area of the bullet entrance. The patient's temperature was spiking to 102° to 103° F. daily. He was still aphasic, had right hemiparesis and right parietal lobe deficit with hemihypesthesia. Purulent material was draining from the scalp flap incision and there was a bulging fluctuant area beneath the flap.

On May 10, following intensive antibiotic therapy, a left frontotemporal scalp flap was reopened and early abscess formation was noted in a cerebral fungus that was mushrooming through a 2 cm. dural defect in the left posterior frontoparietal area. Careful debridement of brain and excision of cerebral fungus was then carried out. The dural edges were debrided and a homograft of freeze-dried dura was then placed in the large dural defect, the patch being 4x9 cm. A water-tight closure was obtained.

The patient did exceptionally well postoperatively except for one or two galeal sutures which became infected and had to be removed.

On December 16, 1960, left frontoparietal acrylic cranioplasty was performed to fill a cranial defect. At the time of operation, the dural graft was inspected and was found to be well healed with no reaction, and the pericranium was dissected from it with ease. The cranial defect edges were easily freed from the dura, and it was noted that the dural graft blended imperceptibly with the normal dura, even the sutures being almost undetectable. The graft appeared to be about twice the thickness of normal dura.

The patient recovered from the cranioplastic procedure without incident and was discharged five days later. His neurologic deficit was remarkably small in view of the large amount of cerebral fungus which had to be removed at the time of the original operation. When last observed he had slight parietal lobe findings of the right hand with some astereognosis, otherwise had normal strength and speech and was carrying on normal activity at school for his age and grade.

Case 3. The patient was a 17-year-old, right-handed boy who in an automobile collision received lacerations of the face and a depressed frontal skull fracture with avulsion of scalp and bone. He was taken immediately to an emergency hospital where a general surgeon who examined him noted he was comatose, that the pupils were widely dilated and fixed and that there was profuse bleeding from a large frontal scalp laceration and depressed skull fracture. As he was in considerable respiratory distress, tracheotomy was performed in the emergency room and meanwhile burr holes were made through transverse temporal incisions that were 1 cm. above the ear and 8 centimeters in length. The laceration of the scalp was then closed over a large dural defect without debridement of brain, dura, or underlying galeal tissues. Although still comatose after these procedures were completed, the patient was moving all extremities well and the pupils had become normal in size.

Upon neurological consultation 24 hours postoperatively the patient was observed to have blood pressure of 130/70 mm. of mercury, a pulse rate of 84, a 12-centimeter transverse laceration across the forehead and considerable nuchal rigidity. The pupils were small (2 mm.) but equal and the disc margins were sharp with no hemorrhage. The patient was moving all extremities and both sides of the face on deep pain and the reflexes were hyperactive, more so on the left, with unsustained patellar clonus on the right. Babinski's sign was positive on both sides.

X-ray studies of the skull, cervical spine and rib cage were then taken and were negative for any fractures except for the depressed skull fracture. The patient was then transferred to the Glendale Sanitarium and Hospital.

After antibiotic therapy and allowing time for the condition of the patient to stabilize, a sample of human freeze-dried dura was obtained from the U. S. Naval Medical Center Tissue Bank, Bethesda.

On December 28, 1960, a bilateral carotid angiogram showed slight shift of the anterior cerebral artery from left to right, indicative of either cerebral edema or intracerebral hematoma of the right frontal pole.

Cranial exploration through the previously made scar was carried out. The frontal scalp and galea were debrided and the depressed skull fragments were removed. Under the depressed area a 2 cm. bulb of macerated and necrotic brain from the tip of the left frontal lobe was herniated through a hole in the dura 2 cm. in diameter. The brain was carefully debrided and all necrotic tissue removed down to normal brain tissue, the tip of the left frontal lobe being sacrificed.

The dural defect was then closed with freeze-dried human dura. This material was overlapped across the saggital sinus, in which there was a small defect that had to be sutured. The posterior wall of the frontal sinus was completely fractured and curettage of all the frontal sinus membranes was then carried out. Tubes were placed to drain the wound.

The patient did well postoperatively, becoming more alert, but elevation of temperature 100° to 101° F. continued and on the tenth postoperative day fluctuation was noted beneath the scalp flap. Staphylococcus aureus, coagulation-positive, sensitive to chloromycetin, grew on a culture of material aspirated from the fluctuating area. Appropriate antibiotic administration was carried out, further debridement was performed and an epidural abscess was drained. The patient then recovered without incident and with no elevation of temperature. His sensorium improved and the ability to talk returned. Three weeks later, the tracheotomy was closed and the patient was moving all extremities well, was talking coherently and rationally, was walking and had essentially no neurological abnormalities, although pulsation could be seen in the depression at the site of craniectomy. On February 5, 1961, he was discharged to his home with a proposal for acrylic cranioplasty some six months later. When last observed the patient had had no cerebral seizures and was doing well at home.

DISCUSSION

Dura mater homografts may be useful in such conditions as: Dural defects following craniocerebral trauma; closure of cerebrospinal fluid fistulas; defects following removal of tumors; closure of pericranial or temporal fascial defects; closure of dura mater in posterior fossa explorations; repair of congenital dural defects.

While pericranium is a readily available tissue and serves well as a dural substitute (as advocated by Hayes[2]) autografts of tensor fascia lata are often difficult to use in a severely injured patient whose lower extremities may be so damaged that sterile removal of tissue cannot be done.

The closure of a dural defect by some means should be performed promptly, if post-traumatic epilepsy is to be reduced to a minimum.[1,7]

In the three cases presented, the material used to close the defects in the dura mater proved highly successful in potentially contaminated wounds, cerebrospinal fluid fistulae were checked. Although infection occurred in two wounds, the dura remained intact and prevented subdural empyema. In each instance, water-tight closures were achieved. All patients were improved and in two cases the dural homograft was undoubtedly life-saving.

655 North Central Avenue, Glendale 3.

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California MEDICINE

For information on preparation of manuscript, see advertising page 2

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EDITORIAL

Green Light

In approving amendments to the Constitution and By-laws, the 1962 House of Delegates of the California Medical Association gave the go-ahead signal to the unification program with osteopathic physicians and surgeons in California.

A year ago the delegates voted overwhelmingly in favor of the entire program. The vote this year provided necessary changes in the governing documents of the Association.

A letter to members of the C.M.A. a few weeks ago outlined the steps that have been taken since last year's meeting, each step a cog in the wheel of progress in creating a single class of physicians and surgeons in our burgeoning state.

The new vote in the House of Delegates takes care of that part of the program which required changes in our governing laws. With a few more steps the plan will be completed and unification will become a fact.

As noted in the letter to members, the former osteopathic school in Los Angeles has changed its name to the California College of Medicine, which has been accredited as a medical school by the Council on Medical Education and Hospitals of the American Medical Association and the Association of American Medical Colleges. It has met the few conditions imposed to qualify for this accreditation.

One of these conditions was to secure a medical educator as its new dean. Doctor Benjamin Wells, formerly dean of the University of Arkansas Medical School and more recently director of research at the Veterans Administration in New York, has been chosen for this post by the Board of Trustees and approved by the distinguished committee of medical school deans supervising the educational factors of the program. Dean Wells has accepted the appointment and is expected to occupy his new office within the next month or two. He is a pathologist by training and a holder of a doctorate in philosophy as well as in medicine.

Legally, the trial court has held against the American Osteopathic Association's divisional society on all causes of action by which it sought to prevent the unification in California. This leaves that organization with the decision as to whether or not to attempt to carry the matter to a higher court.

Governor Brown, by special call, placed this matter before the budget session of the 1962 legislature. Senate Bills 6, 7, 19, and 21, introduced by Senator Stephen Teale, who is an osteopathic physician, received overwhelming approval. These bills pertain to the termination of issuance of new osteopathic licenses, assumption by the Board of Medical Examiners of the duties of the present Board of Osteopathic Examiners, and provision for proportionate representation on the Medical Board of former osteopathic physicians who have obtained their M.D. degrees. Provision is also made for placing before the electorate on the November ballot the matter of repeal of the osteopathic initiative. Since the Osteopathic Board was established by a vote of the people, and is a part of the State's constitution, it can be abolished only by a vote of the people.

The American Osteopathic Association is today represented in California largely by a public relations firm and the so-called Osteopathic Physicians and Surgeons of California, which is the splinter opposition group representing less than 200 individuals. Many of this group are elderly or retired practitioners and some are not eligible for an M.D. degree. This group has clearly indicated that every effort will be made to preserve the initiative and to try in some manner to continue to license osteopathic physicians in California.

It is obvious that the accusation "medical monopoly" will be made as the November voting date approaches. Doctors of Medicine will be pictured as callous persons interested only in their own welfare and unwilling to let John Q. Public choose his own method of healing. It will be necessary for members of both the medical and osteopathic professions, and other informed persons in California, to make sure that the electorate understands clearly the issues involved.

All in all, the program at this point is moving smoothly toward completion. The remaining steps can be calculated and efforts made to put them into effect. There is every indication that these steps will be well planned, well executed and successful.

The degree of interest and knowledge displayed by members of the C.M.A. has been extremely high in this program. With these same attributes, coupled with some few additional months of work, the unification of medicine and osteopathy seems assured.

Another First

Californians have long accepted the spoofing inflicted by residents of other states over our proclivity to use the superlative when speaking of what we have, what we are and what we do. We have for many years bragged of our state as the finest, the most progressive, the most spectacular and as many another "most."

We have even learned to accept graciously the compliments that accuse us of harboring the most radicals, the most screwballs, the most far-fetched notions.

California recently gained another first place. It is now the largest state unit in the American Medical Association. While the trend toward this position has been evident for some years, the actual breakthrough comes as a pleasant item of information.

It is also a reminder that the larger the state association in the national assembly, the greater the responsibility.

Two decades ago California ranked fourth in membership among the constituent associations in the A.M.A. New York, Pennsylvania and Illinois had more membership and more representation in the A.M.A. House of Delegates.

Following World War II it became evident that "every physician who passed through California in a jeep wanted to come here as a practitioner." This trend has continued and has been magnified by the increasing number of physicians from other areas who have followed their fellow residents in moving here as a part of the largest in-migrant population surge the country has ever seen. The physician-population ratio of one to 750 has been maintained steadily in the face of half a million new residents annually.

The California delegation in the A.M.A. has reflected this increase. Two years ago the state achieved the statistical level of New York in the A.M.A. House of Delegates. It has now gone ahead to achieve first place in this numerical comparison.

During the growth period of the past 20 years, California's delegation to the A.M.A. has been aware of its increasing size and has carefully used its numerical strength to promote only those programs which are equally beneficial to the public and the profession.

Today it is even more important that the new position of numerical leadership be matched by moral and psychological standards of comparable size and strength. Should California use its size in terms of power rather than good, its influence in national medical affairs would suffer a prompt and well deserved downgrading.

It is comfortable to be big. It is pleasant to be good. It is incumbent that these qualities go together for the betterment of medical practice and the public health for all our people.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Minutes of the 478th Meeting of the Council, San Francisco, Hyatt House, March 17, 1962.

The meeting was called to order by Chairman Sherman in the Hyatt House, San Francisco International Airport, on Saturday, March 17, 1962, at 10:00 a.m.

Roll Call:

Present were President Bostick, President-Elect Wheeler, Speaker Doyle, Vice-Speaker Heron, Secretary Hosmer, Editor Wilbur and Councilors MacLaggan, Wilson, Todd, Quinn, O'Neill, Kirchner, O'Connor, Ham, Rogers, Dalton, Murray, Davis, Miller, Sherman, Campbell, Morrison, Anderson and Teall.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Collins, Clancy, Thomas, Clark, Marvin, Whelan, Klutch, Tobitt, Edwards and Bowman, Mrs. Griffith and Doctors Batchelder and Miller of C.M.A. staff; Messrs. Hassard and Huber of legal counsel; Messrs. Read and Salisbury of the Public Health League; county executives Scheuber of Alameda-Contra Costa, Baker of Los Angeles, Donovan of Santa Clara, Bannister of Orange, Brayer of Riverside, Nute of San Diego, Neick of San Francisco, Thompson of San Joaquin, Blankfort of Marin, Grove of Monterey, Wood of San Mateo, Funk of Solano, Brown of Sonoma and Rideout of Butte-Glenn; Doctor Malcolm Merrill, State Director of Public Health; Doctor Daniel Blain, State Director of Mental Hygiene; Doctor Lester McDonald and Mrs. Eunice Evans of the State Department of Social Welfare; Doctor T. E. Reynolds and Messrs. Paolini and Wahlberg of California Physicians' Service; Doctors Kandlbiner, president, and Hull, secretary, of the Monterey County Medical Society; Mr. J. E. Brayn, communications consultant; Doctors Dan O. Kilroy, Gerald Shaw, Clyde L. Boice, John E. Vaughan, Donald Harrington, Henry Gibbons III, and others.

1. *Minutes for Approval:*

On motion duly made and seconded, minutes of the 477th Council meeting, held February 16, 1962, were approved.

2. *Membership:*

(a) A report of membership as of March 14, 1962, was presented and ordered filed.

(b) On motion duly made and seconded in each instance, 21 applicants were voted Associate Membership. These were:

Ida Henriette Gans, Richard David Gerlach, Bernard Lewis Hardin, David Van Der Slice, Robert Lane Ware, Alameda-Contra Costa County; Margaret Eakin, Roger K. Larson, Madge Peirsol, Fresno County; Joseph E. O'Neill, Eugene Zimmerman, Mendocino-Lake County; T. J. Hughes, Bruce A. Walter, Riverside County; Harry J. Powers, San Bernardino County; Rudolph Harriman DeJong, Edmond I. Eger, II, George F. Solomon, Szu Tai Tsou, Grace F. Young, San Francisco County; Charles L. Ianne, William Paul Miller, Santa Clara County, and Robert J. Garbarino, Shasta-Trinity County.

OMER W. WHEELER, M.D.	President
SAMUEL R. SHERMAN, M.D.	President-Elect
JAMES C. DOYLE, M.D.	Speaker
IVAN C. HERON, M.D.	Vice-Speaker
CARL E. ANDERSON, M.D.	Chairman of the Council
RALPH C. TEALL, M.D.	Vice-Chairman of the Council
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(c) On motion duly made and seconded in each instance, 21 members were voted Retired Membership. These were:

George McClure, Philip H. Petch, Fletcher B. Taylor, J. Dwight Wilson, Alameda-Contra Costa County; William H. Moore, Sr., Kern County; Barney E. Coleman, Edward B. Dewey, Henry H. Luster, Clifford L. Gilles, Esther S. Nelson, Carroll G. Simons, Los Angeles County; Lawrence Carl Johnson, Frances E. Shields, Monterey County; Mildred Van Cleve, Riverside County; Eberle C. Sheldon, San Benito County; Ross Paull, San Diego County; John Y. Bartholomew, San Francisco County; William H. Murphy, San Mateo County; W. H. Haakinson, Alfred Dean Storey, Milton V. Veldee, Santa Clara County.

(d) On motion duly made and seconded, reduction of dues were voted for six members because of illness or postgraduate study.

3. *Committee on Scientific Activities and Continuing Education:*

Doctor Bostick reviewed a report submitted by an ad hoc committee under his chairmanship, which had studied the report of the scientific committee under the chairmanship of Doctor Wilbur. Discussion was held by various Councilors, particularly on the original committee's recommendation that all 36 members of a proposed Scientific Board be given seats in the House of Delegates. Following discussion and a ballot, it was regularly moved, seconded and voted to accept the report of Doctor Bostick's review committee, with the proviso that the Scientific Board be represented in the House of Delegates by 18 of its members. It was agreed that necessary amendments to the Constitution & By-Laws be prepared and submitted to the House of Delegates in the name of the Council.

4. *State Department of Public Health:*

Doctor Malcolm Merrill, State Director of Public Health, reported that a meeting had been held with interested parties in regard to the reporting of infectious diseases to local health officers by laboratories, that the proposed regulations had been amended and had been adopted by the Board of Health.

Doctor Merrill also reported on new air standards other than those affecting automobiles, on legislation submitted to clarify polio immunization for students, and on oral polio vaccine.

5. *State Department of Mental Hygiene:*

Doctor Daniel Blain, State Director of Mental Hygiene, reported that a departmental study on a long-range program had been completed and copies given several Association officers for review. The study recommends that emphasis be placed on home or community care for those with mental illness and Doctor Blain asked cooperation in the effort to shift the mental health load to private sources. On motion duly made and seconded, it was voted to refer the report to the Committee on Mental Health and to thank Doctor Blain for his presentation and philosophy.

6. *State Department of Social Welfare:*

Mrs. Evans reported that the average age of patients coming under the new Medical Assistance to the Aged program was above 70 years. She discussed some of the problems encountered in instituting this program and replied to questions concerning the origin of these patients.

Councilor Dalton reported that physicians in Santa Barbara County had proposed that the MAA program there be administered under the CPS contract, with physicians accepting available funds as full payment. This proposal is under advisement by state authorities.

7. *California Physicians' Service:*

Doctor Morrison, board chairman of CPS, reported that CPS was reviewing the possibility of administering the welfare program. He also reported that discussions had been held with representatives of county foundations and proposed that a committee on Foundations be established, with three representatives each from the foundations, from CPS and the CMA. On motion duly made and seconded, this proposal was voted approval, with the understanding that CMA funds would come from appropriations already made for a liaison committee.

Doctor Morrison also reported that a pilot program for seasonal farm workers is under consideration and that a mechanism has been developed for after-65 coverage for employees covered under indemnity contracts.

8. *Service Type Contracts:*

Doctor Donald Harrington, chairman of an ad hoc committee to review and make recommendations on CPS service type income ceilings, presented the committee report. He presented figures on the average income levels in some counties and a comparison of income levels under CPS contracts between 1939 and 1961. On motion duly made and seconded, the committee was thanked for its report, and at Doctor Harrington's suggestion, the committee was discharged and the report referred to the CMA-CPS Liaison Committee.

9. *Committee on Organization and Procedures:*

A report of this special committee, under the chairmanship of Doctor Donald D. Lum, was presented, covering several items referred by the House of Delegates and the Council. On motion duly made and seconded, the report was approved and the

Council voted to introduce a By-Law amendment to carry out the committee's recommendations on the introduction of business into the House of Delegates.

10. *Report of the President:*

Doctor Bostick gave a progress report on the osteopathic unification program and stated that a report would be prepared for mailing to all members.

11. *Committee for Emergency Action:*

Doctor Bostick reported that further consideration had been given by the Committee for Emergency Action to a proposed program for student scholarships and/or loans. He noted that the American Medical Association has now announced the terms of a nationwide student loan program. The committee recommended that (1) such a program was appropriate in California, (2) coordination should be achieved between the AMA, California and county plans, (3) funds should be raised outside the CMA dues structure and (4) loans should be essentially non-interest bearing.

12. *California Medical Education and Research Foundation:*

On motion duly made and seconded, it was voted that the board of directors of California Medical Education and Research Foundation should comprise the president, president-elect, council chairman, legal counsel and finance committee chairman of the CMA.

13. *Report of President-Elect:*

Doctor Wheeler reported that osteopathic physicians and surgeons who may receive the MD degree and qualify for Association membership will probably benefit by an orientation program. On motion duly made and seconded, it was voted to ask the Committee for Emergency Action to formulate plans for such a program and report back at the next Council meeting.

14. *Finance Committee:*

Doctor Teall presented a financial report for February and for the eight months ended February 28, 1962, which was ordered filed.

Doctor Teall also presented a proposed budget for 1962-1963, which, after discussion and on motion duly made and seconded, was approved for presentation to the House of Delegates. The budget was based on 1963 dues at the same level as 1962.

15. *Committee on Committees:*

Doctor Wheeler presented the recommendations of the Committee on Committees for commission and committee appointments for the coming year. On motion duly made and seconded, these recommendations, with a few items deferred for further consideration, were approved for presentation to the House of Delegates.

16. *Committee on Other Professions:*

Doctor William D. Evans reported that problems were being encountered by some osteopathic school graduates who have entered residency training which may not be approved by specialty boards as approved training for specialty recognition. He asked that the Council go on record as requesting that national authorities be asked to recognize the preliminary training of such residents and approve further training. It was agreed that an inquiry of this type should be made on an informal basis.

17. *Speakers' Bureau:*

A request for speaking engagements for a visiting British physician was presented and ordered referred to the Speakers' Bureau for consideration.

18. *Bureau of Research and Planning:*

Mr. Klutch presented a report on the quality of medical care which, on motion duly made and seconded, was approved.

Mr. Klutch also presented a report on the characteristics of physicians which, on motion duly made and seconded, was approved for submission to CALIFORNIA MEDICINE for publication.

19. *Committee on Legislation:*

Doctor Dan O. Kilroy reported on actions taken by his committee on resolutions approved by the 1961 House of Delegates. He called attention to Resolution No. 74, which asked promotion of a basic science law and pointed out the difficulties of accomplishing such legislation under a vote of the people. Doctor Kilroy suggested a study committee on this subject, to include the author of the resolution in its membership. On motion duly made and seconded, this proposal was approved.

20. *Committee on Postgraduate Activities:*

On motion duly made and seconded, approval was voted for a proposed course of teaching medical educators in methods of instruction, with no cost to the Association.

21. *House of Delegates Business:*

Mr. Whelan presented a resolution on tissue committees and a revision of the disciplinary sections of the By-Laws and Mr. Hunton presented a series of resolutions and By-Law amendments for introduction into the 1962 House of Delegates. On motion duly made and seconded, all items were approved.

22. *Cancer Commission:*

Doctor Davis gave a progress report for the Cancer Commission and reported that a series of cancer articles published several years ago was being rewritten for updating and for publication in CALIFORNIA MEDICINE, prior to being bound in book form. On motion duly made and seconded, it was voted to refer to the Committee on Committees the question of the composition of the commission under the proposed Scientific Board.

23. *Medical Care for Aged:*

Doctor Anderson proposed a resolution in support of a measure before the Congress to free retirement trust funds for the purchase of medical care insurance for the aged. On motion duly made and seconded, this measure was voted approval.

24. *State Employees' Retirement System:*

It was moved, seconded and carried that CMA and component society activities designed to elevate standards of medical care be submitted to the Board of Administrators of the State Employees' Retirement System (administrator of the state employees health insurance law) and that CMA representatives appear at the Board's public hearing scheduled for April 13, 1962, and that stress be placed on the fact that studies on actions related to quality of medical service must be under physician guidance.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 6:00 p.m.

SAMUEL R. SHERMAN, M.D., *Chairman*
MATTHEW N. HOSMER, M.D., *Secretary*

Osteopathic Unification

Herewith are the two constitutional amendments and the by-law amendment that were passed by the 1962 meeting of the California Medical Association House of Delegates to provide the structural changes necessary to the unification of the osteopathic and medical physicians in this state.

* * *

CONSTITUTIONAL AMENDMENT No. 1

Author: Samuel R. Sherman.
Representing: The Council.

Resolved: That Article I, Section 5, of the Constitution of the California Medical Association shall be amended, by adding a new sentence at the end of the present section reading as follows:

"Notwithstanding the foregoing, one charter may be issued to a component society that is not limited as to geographical area or which overlaps the area covered by one or more existing component societies."

* * *

CONSTITUTIONAL AMENDMENT No. 2

Author: Samuel R. Sherman.
Representing: The Council.

Resolved: That Article III, Part B, Section 10, of the Constitution of the C.M.A. shall be amended by deleting the word "ten" in the first sentence of the section and substituting therefor the word "eleven" and by adding the following sentence as a separate subparagraph of said section:

"District No. 11, consisting of any society which is not limited as to geographical area, or the area of which overlaps the area covered by one or more existing component societies; such society and its members shall not be considered to be members of any other councilor district."

* * *

BY-LAW AMENDMENT No. 14

Author: Samuel R. Sherman.
Representing: The Council.

Resolved: That Chapter II, Section 3(b) of the By-Laws of the California Medical Association shall be amended by inserting after the second sentence of said Section 3(b) a new sentence to read as follows:

"A person holding a physician's and surgeon's certificate under the jurisdiction of the State Board of Osteopathic Examiners on or before September 30, 1962, who holds a degree of Doctor of Medicine issued to him by the College of Osteopathic Physicians and Surgeons (or its successor), and whose license to practice medicine and surgery is unrevoked and unsuspended, is eligible for election to active membership in a component society. However, in the event that a charter is outstanding to a state-wide component society, none of such persons shall be permitted to join any component society other than the state-wide component society, without the express consent of such state-wide society."

No. 8*

New Law Requiring Medical Supervision

For California's Agricultural Workers Using Organophosphorous Pesticides

THE NEW Agricultural Safety Orders adopted in November, 1961, by the California Industrial Safety Board require that medical supervision be provided for agricultural employees who regularly work with certain toxic phosphate ester (organophosphorous) pesticides: parathion, Phosdrin, Thimet, TEPP (tetraethyl-pyrophosphate), methyl parathion, EPN, OMPA, and Di-Syston.

These Orders were adopted as a necessary step to combat the increasingly serious problem of phosphate ester poisoning in farm workers. The orders are enforced by the Division of Industrial Safety of the State Department of Industrial Relations. The requirements for medical supervision appear in Section 3298.14 as follows:

"(a) *Medical Supervision.* Where employees are regularly occupied in the spreading, spraying, dusting, or other application or formulation of organic phosphate injurious materials, the employer shall engage the service of a licensed physician to provide medical supervision. Medical supervision shall include advance planning for prompt care of organic phosphate poisoning, and cholinesterase determinations or other recognized medical tests to be made on each employee before any exposure to these materials and as often thereafter as recommended by the physician.

"(b) *Record of Physician's Recommendations.* The employer shall keep a record of all recommendations made by the medical supervisor and such record shall be made available to the Division of Industrial Safety on request.

"(c) *Restricted Activities.* When, in the opinion of the employer's medical authority, continued exposure to organic phosphate injurious materials is likely to injure an employee's health, such employee shall be removed from the exposure."

As a service to their communities, local medical associations through their occupational health committees can set up a roster of physicians available and can assist these physicians to obtain the technical information and consultation needed. Physicians interested in providing medical supervision for these agricultural workers must become acquainted with the properties of organophosphorous chemicals as well as standard procedures for setting up medical programs for workers. Much of this information is available through bulletins published by the Bureau of Occupational Health of the State Department of Public Health, 2151 Berkeley Way, Berkeley 4.

Medical supervision has more to offer in the prevention and treatment of organophosphorous poisoning than it has for many other occupational hazards. First, there is the cholinesterase test which can detect excessive exposure before workers become sick. Second, there is an antidote for poisoning, which if administered early and in adequate amounts, can save the lives of victims who have absorbed several times the fatal dose.

COMMITTEE ON OCCUPATIONAL HEALTH
CALIFORNIA MEDICAL ASSOCIATION

Comments and Questions Are Welcomed by the Committee

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* This is the eighth of a series of articles prepared by the Committee on Occupational Health.
(The article "You Gotta Have Heart," previously scheduled for this issue will be printed later.)

In Memoriam

Ashley, Rea Ernest, San Francisco. Died March 18, 1962, in San Francisco, aged 68, of heart disease. Graduate of the University of Illinois College of Medicine, Chicago, 1920. Licensed in California in 1920. Doctor Ashley was a member of the San Francisco Medical Society.

◆

Ball, Elmer J., Los Angeles. Died April 16, 1962, in Los Angeles, aged 61, of coronary thrombosis. Graduate of Northwestern University Medical School, Chicago, Illinois, 1927. Licensed in California in 1936. Doctor Hall was a member of the Los Angeles County Medical Association.

◆

Blair, Edward, Paso Robles. Died March 26, 1962, in Paso Robles, aged 68. Graduate of the University of California School of Medicine, San Francisco, 1924. Licensed in California in 1924. Doctor Blair was a member of the San Luis Obispo County Medical Society.

◆

Brown, Albert Lincoln (A. Lincoln), San Francisco. Died April 15, 1962, in San Francisco, aged 64. Graduate of Harvard Medical School, Boston, Massachusetts, 1923. Licensed in California in 1925. Doctor Brown was a member of the San Francisco Medical Society.

◆

Brunie, Leonard John, Pasadena. Died March 19, 1962, in Pasadena, aged 62, of heart disease. Graduate of the College of Medical Evangelists School of Medicine, Loma Linda-Los Angeles, 1927. Licensed in California in 1927. Doctor Brunie was a member of the Los Angeles County Medical Association.

◆

Deakins, Duane Devening, Murphys. Died in an airplane crash, February 25, 1962, aged 39. Graduate of the University of Southern California School of Medicine, Los Angeles, 1951. Licensed in California in 1951. Doctor Deakins was an associate member of the San Joaquin Medical Society.

◆

Drabkin, Charles, Los Angeles. Died April 11, 1962, in Los Angeles, aged 61, of coronary thrombosis. Graduate of Washington University School of Medicine, St. Louis, Missouri, 1924. Licensed in California in 1926. Doctor Drabkin was a member of the Los Angeles County Medical Association.

◆

Dunne, Numa Pompilius, Oakland. Died April 3, 1962, in Oakland, aged 62, of carcinomatosis due to Hodgkins' sarcoma. Graduate of the University of Illinois College of Medicine, Chicago, 1928. Licensed in California in 1928. Doctor Dunne was a member of the Alameda-Contra Costa Medical Association.

Hamilton, Harold Pierpont, Los Angeles. Died January 25, 1962, in Los Angeles, aged 64, of coronary thrombosis. Graduate of the University of Pennsylvania School of Medicine, Philadelphia, 1926. Licensed in California in 1933. Doctor Hamilton was a member of the Los Angeles County Medical Association.

◆

Hansen, Alex Frederick J., Long Beach. Died December 18, 1961, in Long Beach, aged 66, of cerebral infarction. Graduate of the University of Nebraska College of Medicine, Omaha, 1922. Licensed in California in 1924. Doctor Hansen was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

◆

Isquith, Samuel Alerd, Sherman Oaks. Died April 13, 1962, in Sherman Oaks, aged 64, of coronary occlusion. Graduate of State University of New York Downstate Medical Center, New York, 1921. Licensed in California in 1946. Doctor Isquith was a member of the Los Angeles County Medical Association.

◆

Jackson, C. L. (Cleveland), San Diego. Died April 9, 1962, in Phoenix, Arizona, aged 66, of a stroke. Graduate of Howard University College of Medicine, Washington, D. C., 1930. Licensed in California in 1936. Doctor Jackson was a member of the San Diego County Medical Society.

◆

Lery, Abraham Joseph, Northridge. Died March 15, 1962, in Northridge, aged 56, of heart disease. Graduate of Northwestern University Medical School, Chicago, Illinois, 1931. Licensed in California in 1956. Doctor Lery was a member of the Los Angeles County Medical Association.

◆

Pelgen, John L., Murphys. Died in an airplane crash, February 25, 1962, aged 37. Graduate of the University of Southern California School of Medicine, Los Angeles, 1955. Licensed in California in 1956. Doctor Pelgen was a member of the San Joaquin Medical Society.

◆

Slaughter, Howard C., Malibu. Died March 22, 1962, aged 78, of coronary thrombosis. Graduate of the University College of Medicine, Richmond, Virginia, 1903. Licensed in California in 1921. Doctor Slaughter was a member of the Los Angeles County Medical Association.

◆

Stark, John Henderson, Oakland. Died April 12, 1962, in Oakland, aged 75, of acute interstitial pneumonia after prostatectomy. Graduate of Oakland College of Medicine and Surgery, 1912. Licensed in California in 1912. Doctor Stark was a member of the Alameda-Contra Costa Medical Association.

12th ANNUAL

REGIONAL POSTGRADUATE INSTITUTE

SACRAMENTO VALLEY COUNTIES

Presented by Loma Linda University School of Medicine, W. F. Norwood, Ph.D., Assistant Dean and Chairman Department of Continuing Education, and California Medical Association Committee on Postgraduate Activities with Sacramento Valley Counties Medical Societies.

Guest Speaker: B. Marden Black, M.D., Professor of Surgery, University of Minnesota, Mayo Foundation.

Feather River Inn — Blairsden

June 21 and 22, 1962

PROGRAM

THURSDAY, JUNE 21

Morning Session

9:00-9:30—**"How I Do It" Clinic.**

9:30-10:15—**Approaching the Thyroid Nodule**—B. Marden Black, M.D.

10:15-11:00—**Exercises, Diets and Drugs in Atherosclerosis—(Calories Don't Count)**—John E. Peterson, M.D.

11:15-12:30—**Panel Discussions.**

Panel 1—**Vascular Headaches.**

Panel 2—**Differential Diagnosis of Peripheral Vascular Disease and Orthopedic Diseases of the Lower Extremities.**

Afternoon Session

2:00-2:40—**Management of the Surgical Patient with Diabetes—Pre and Postoperative**—Arthur J. Riesenfeld, M.D.

2:40-3:15—**Neck, Shoulder and Arm Pain**—Kenneth H. Abbott, M.D.

3:30-4:45—**Panel Discussions.**

Panel 1—**The Unconscious Patient with Abdominal Injuries.**

Panel 2—**Gynecological Endocrinology.**

Panel 3—**Early Diagnosis.**

FRIDAY, JUNE 22

Morning Sessions

8:30-9:30—**"How I Do It" Clinic.**

9:30-10:15—**New Developments in Recognition and Treatment of Hyperthyroidism**—B. Marden Black, M.D.

10:15-11:00—**Common Fractures, Dislocations and their Management**—Alonzo M. Neufeld, M.D.

11:15-12:30—**Panel Discussions.**

Panel 1—**Use and Abuse of Steroids.**

Panel 2—**Physical Fitness in the New Frontier.**

Afternoon Sessions

2:00-2:40—**Fetal Distress**—Edward H. G. Hon, M.D.

2:40-3:15—**Investigation and Management of Obscure Gastrointestinal Bleeding**—David B. Hinshaw, M.D.

3:30-4:30—**Plenary Session.**

HOST: Sacramento County Medical Society . . . **GENERAL CHAIRMAN:** Sherman DeVine, M.D., . . . **PROGRAM CHAIRMAN:** John Quinn, M.D. . . . **INSTITUTE FEE:** $15.00. For Registration and additional information contact Postgraduate Activities office, California Medical Association, 693 Sutter Street, San Francisco 2. **All California Medical Association members and their families are cordially invited to attend.**

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, *M.D., M.P.H.*
Director, State Department of Public Health

At its March meeting in Berkeley, the State Board of Public Health adopted regulations requiring laboratory notification to local health officers of findings suggestive of communicable disease. These regulations, effective April 25, apply to diphtheria, gonorrhea, syphilis, tuberculosis, and typhoid.

Currently, some 15 states have similar regulations and about 18 others have them under active consideration. Regulations were adopted in California on the basis of the beneficial results already obtained in other states.

For example: In the two-year period before Pennsylvania's 1958 regulation, private physicians reported 1,554 cases of syphilis. In the two subsequent years, this figure rose to 13,406, or an increase of 763 per cent. More important, the increase in reporting of infectious syphilis was of the order of 400 per cent. Comparable experience is reported from Chicago.

Spot surveys in California have shown that venereal disease is substantially underreported. The eradication of venereal disease is dependent on carrying out epidemiologic follow-up with reference to each infectious patient. The health officer cannot fulfill his obligation with reference to the VD prevention and control program when he does not know that a case exists.

Epidemiologic case finding and follow-up procedures must be and are carried out by specialized health department staff without embarrassment to the physician or his patient and without violation of the confidential nature of information received. Usually this health department service to the private physician relieves him of a time-consuming chore that, because of heavy patient load, probably would not otherwise be done.

There is also evidence that a great deal of tuberculosis remains unreported. Death certificates for 1960 show that 9.2 per cent of all new cases reported that year were in persons dead at the time the report was made. Nearly 95 per cent of these were in the age group over 30 years and the lesions were far advanced, indicating long duration of the disease with probable exposure of many other persons with whom the deceased had come in contact.

It is emphasized that laboratory notification of evidence of communicable disease does not constitute a diagnosis. As in all clinical procedures, the laboratory is functioning as an aid to help the physician arrive at a diagnosis. By the same token, laboratory notification is not "reporting." Only the attending physician can report the case once he has made the diagnosis.

It is also stressed that the laboratory notification, like the physician's morbidity report, is confidential and not open to public inspection.

While the new regulation does entail some additional work by laboratories, physicians and health departments, the responsibilities of the physician and the health officer are not new, since they already are formulated in existing regulations. The new requirement provides epidemic intelligence data not formerly available to the health officer in carrying out his duties. It should be of great value to him as well as to the attending physician in the discharge of their mutual responsibility to the community for the control of communicable disease.

It is anticipated that this regulation will result in greater awareness on the part of practicing physicians and increased use by them of health department services such as epidemiologic follow-up of patients, reference laboratory procedures for confirmatory tests, identification of atypical organisms, typing of bacteria and determination of microorganism drug sensitivity (with reference to patients under treatment for tuberculosis).

If his new regulation is viewed by the clinical laboratory director and the attending physician as providing one more source of epidemic intelligence to the health officer in the fight against communicable disease, and if all three utilize the information provided intelligently and efficiently, the traditional and desirable physician-patient relationship will not be disturbed, the patient's right to confidentiality will be adequately protected, the physician will feel free to report the case as required and the health officer will know a good deal more about the true status of communicable disease in his jurisdiction than he now does.

Copies of the regulation can be obtained on request to the Bureau of Communicable Disease, State Department of Public Health, 2151 Berkeley Way, Berkeley.

INFORMATION

Playing Politics with the Aged

In the game of politics, a group that wants to push its own proposal is likely to spend a good deal of time attacking its opponents—and any alternative programs. If the attacks are frequent and violent enough, the opponents will be kept busy defending themselves. And no one is likely to have much time for calm consideration of the group's own proposal.

This at least seems to be the thinking of the Kennedy Administration as it promotes its plan to provide medical care for the aged through Social Security. One of the prime opponents of the proposal is the American Medical Association, so the A.M.A. now is coming under heavy fire.

John M. Bailey, the Democratic national chairman, charged the other day that the national medical group "has stood for years against the social and economic advances that the Birch Society stands against today." In fact, Mr. Bailey contended, "the American people are starting to regard the A.M.A. as an ally of the John Birch Society in a surgical mask." One doesn't have to be a fan of the A.M.A. to recognize this as wild political propaganda.

But the Democrats and the Administration were not through with the A.M.A. A few days later, the President welcomed a group of 27 doctors to the White House. The group read a statement signed by 40 doctors who support the Administration's medical care program, and the President said he hoped this support would convince other doctors of the wisdom of his plan.

A spokesman for the 27 doctors said he didn't know how many A.M.A. members favored the Social Security approach but added that 75 per cent of the 40 doctors who had signed the statement were members of the A.M.A. This is proof positive that at least 30 of the A.M.A.'s 180,000 members are all for the Administration's proposal.

On the same day, Secretary of Health, Education and Welfare Ribicoff attacked an existing government program of medical care for the aged. The A.M.A. and many other groups and individuals argue that this program, set up by the Kerr-Mills Act of 1960, deserves a fair test before the government embarks on anything as extensive as medical care through Social Security. Under the Kerr-Mills plan, states can set up federal-state medical programs for persons over 65 whose financial resources are limited; the federal government provides at least half of the funds.

So far as Mr. Ribicoff is concerned, the Kerr-Mills plan has already met its test and failed. The findings of a study conducted by his department, he said, "supports the conclusion that to rely on existing public assistance legislation alone as a means of meeting the medical care needs of aged persons would not only fail to cover many aged people in need, but would be very costly in general revenues."

Both Mr. Ribicoff's "study" and its conclusions, we believe, should be scrutinized carefully. The plan is dependent on voluntary action by the states, and state legislatures do not move rapidly. By January, the month on which Mr. Ribicoff's figures were based, 22 states had begun—but had only begun—to participate in the program.

Since January, Mr. Ribicoff concedes, six more states have joined the program. And it is certain there will be others, especially if the prospects for the Social Security program should dim. Any government program, as the secretary certainly should know, tends to grow as time goes along.

And then there's that comment that the Kerr-Mills plan alone would be "very costly." Is Mr. Ribicoff seriously suggesting that it would cost the taxpayers any less to provide medical care for all elderly citizens, whether they need financial help or not, than it would cost merely to care for those in need?

No one we know of is opposing adequate medical care for the elderly. But there is a very real public policy question whether this should be on a voluntary or a compulsory basis. And whatever anyone thinks about that, it's certain there hasn't been time to fairly assess the Kerr-Mills program—or the many new private insurance plans for the elderly.

However smart its politics may be, we can't see how the Administration is serving the interests of the elderly or the public with its propaganda mixture of vilification and distortion.

Reprinted from the April 2, 1962, issue of the *Wall Street Journal.*

NEWS & NOTES

NATIONAL · STATE · COUNTY

ALAMEDA

A cystic fibrosis care, research and teaching center is being established at Children's Hospital of the East Bay, Oakland, as a result of a grant from the National Cystic Fibrosis Research Foundation.

The foundation has allocated $18,000 to cover patient care, research, and education of patients, physicians and nurses during the first year.

The hospital had received an additional $6,000 from the foundation in the early winter to use for preliminary work in planning the center.

The center's staff, which will utilize Children's Hospital's personnel, will work in conjunction with the local cystic fibrosis chapters to help patients who cannot afford the necessary treatments to obtain equipment and care.

IMPERIAL

Dr. Merle E. Smith has been appointed health officer of Imperial County, succeeding Dr. Burke Schoensee who had held the post on an interim appointment since the resignation of Dr. Paul O'Rourke last year. The new health officer previously was director of the Coconino County Department of Health in Arizona.

LOS ANGELES

Three members of the faculty of the **University of Southern California** School of Medicine have received grants totalling some $70,000 from the American Cancer Society in support of **research on cancer cells.**

Dr. Don H. Nelson, associate professor of medicine, was awarded $44,498 for investigations of the production of hormones by cancerous adrenal glands.

A $22,050 grant went to Dr. Leon Cole, assistant clinical professor of medicine, for studies on immunization of mice against cancer, and one of $6,904 to support research by Dr. Paul Starr, emeritus professor of medicine, on thyroid cancer.

* * *

Dr. Charles I. Barron, medical director of Lockheed Aircraft Corporation, was elected president-elect of the Aerospace Medical Association at the organization's recent annual meeting in Atlantic City.

The California Medical Association's nonprofit subsidiary, the **Audio-Digest Foundation,** has just released to the medical profession a library of more than 250 one-hour tape recordings devoted to comprehensive and penetrating discussions of everyday office problems.

According to the foundation's medical board, the 1962 catalog makes available to the individual physicians, hospitals, and clinics, ideal program and teaching material in six specialty areas: Anesthesiology, obstetrics-gynecology, surgery, internal medicine, pediatrics and general practice. A number of tapes also focus on the basic sciences, cancer, psychiatry, gastroenterology, cardiology, arthritis, geriatrics and hematology.

Copies of the new catalog may be obtained by writing the foundation at 619 S. Westlake Avenue, Los Angeles 57, California.

SAN FRANCISCO

Announcement of the opening of competition for the **William J. and Dorothy Fish Kerr Award** of $500 for the best original observation relative to diagnosis and treatment in the clinical field of cardiovascular disease was made recently by the San Francisco Heart Association. Competition is open to any medical student, intern, resident or fellow in any hospital in the counties contiguous with San Francisco Bay who has less than five years' postgraduate experience.

The application must submit a written description of the observation he has made and along with it a supporting letter from the chief of the hospital service in which it was made, both to be directed to Charles A. Noble, M.D., chairman, awards committee, San Francisco Heart Association, 259 Geary Street, San Francisco 2.

* * *

Dr. Paul J. Sanazaro, associate professor of medicine, University of California Medical Center, San Francisco, has been appointed head of the new educational division of the Association of American Medical Colleges, according to an announcement by Dr. Ward Darley, executive director of the Association.

The division will have as one of its goals that of delving into patterns of teaching and learning as applied to medical education. The information and data thus gained will be distributed to all medical colleges through forums and seminars and the association's publication, *Journal of Medical Education,* Dr. Darley said.

SANTA CLARA

Dr. Norman B. Nelson, dean of the State University of Iowa College of Medicine, has accepted appointment as **medical director of Santa Clara County Hospital.** A graduate of the University of California at Los Angeles, the new medical director was chairman of the department of public health there before going to Iowa. Earlier he was chief epidemiologist for the Los Angeles County Health Department.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to Postgraduate Activities, California Medical Association, 693 Sutter Street, San Francisco 2.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Inhalation Therapy. Saturday, May 26. Seven hours. Fee: $10.00.

Management of Medical Emergencies, Saturday and Sunday, June 2 and 3. Thirteen hours. Fee: $40.00.

Seminars for General Practitioners. Tuesday through Sunday, July 3 through 8. At University Residential Conference Center, Lake Arrowhead. Fee: $162.50 includes room and meals for 5 days.

Anesthesiology. Thursday through Saturday, August 2 through 4.*†

Seminars in Internal Medicine. Sunday through Wednesday, August 12 through 15. At University Residential Conference Center, Lake Arrowhead. Fee: $137.50 includes room and meals for 3 days.

Pediatric Neurology. Wednesday through Sunday, August 15 through 19. At University Residential Conference Center, Lake Arrowhead. Fee: $150.00 includes room and meals for 4 days.

The Evaluation of Therapeutic Agents and Cosmetics. Thursday through Saturday, August 16 through 18.*†

The Endocrine Aspects of Obstetrics and Gynecology. Friday and Saturday, August 24 and 25.*†

For information on courses for physicians or ancillary personnel *contact:* Thomas H. Sternberg, M.D., assistant dean for Department of Continuing Education in Medicine and Health Sciences, U.C.L.A. Medical Center, Los Angeles 24. BRadshaw 2-8911, Ext. 7114.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Ear, Nose and Throat. Thursday through Saturday, May 10 through 12.*†

Proctology. Thursday and Friday, May 17 and 18. Fourteen hours. Fee: $50.00.

The Painful Back. Saturday and Sunday, May 19 and 20. Twelve hours. Fee: $40.00.

Clinical Application of Recent Advances in Genetics. Thursday and Friday, May 24 and 25. Twelve hours. Fee: $40.00.

Corneal Lens: Theory and Application. Thursday through Saturday, June 7 through 9.*†

The Teenager in the Modern World. Saturday and Sunday, June 17 and 18. Fee: $10.00.†

Courses presented by Special Arrangement (continuously):

1. **Principles and Clinical Uses of Radioisotopes** (full time for one to three months).
2. **Anesthesiology** (full time for one to three weeks).

For information on courses for physicians or ancillary personnel *contact:* Department of Continuing Medical Education in Medicine and Health Sciences, University of California Medical Center, San Francisco 22. MOntrose 4-3600, Ext. 665.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Basic Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: $100.00.

Advanced Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: $85.00. Physicians may register at any time.

Medical Centers of Europe. May 21 through June 15: Part A—London, Stockholm, Copenhagen and Paris. Fee: $250.00. June 16 through June 30: Part B—Italy. Fee: $150.00. June 30 through July 9: Part C—Greece. Fee: $75.00.

Psychiatry in Medical Practice. July, 1962. Two-day intensive workshop at San Luis Obispo County General Hospital. Fee: $15.00. (Weekend meetings.)

5th Annual Refresher Course in Hawaii and on board the S.S. Matsonia, July 30 through August 13. (Air travel also possible.)

Psychiatry Courses. *Contact:* Allen J. Enelow, M.D., associate clinical professor, Department of Psychiatry, 1934 Hospital Place, Los Angeles 33, CA 5-3131, Ext. 71951.

Contact: Phil R. Manning, M.D., Associate Dean and Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

LOMA LINDA UNIVERSITY

Clinical Traineeships available in clinical departments by arrangement with Postgraduate Division and Postgraduate Chairman of department involved. In addition to those listed, other traineeships in other departments can be arranged. Eighty hours minimum. Limited enrollment. Begin when individually arranged.

1. **Anesthesia.** Six months. 250 to 300 hours. Fee: $350.00.
2. **Pulmonary Diseases** (can be arranged).

Diseases of the Thyroid, Tuesdays, May 15 through 26. Twelve hours. To be held in San Diego. *Contact:* Roy Berrett, M.D., 1947 Cable Street, San Diego, AC 3-7164 or Edgar Miles, M.D., 3737 Moraga Ave., San Diego, BR 3-3619.

***Continuously:* Illustrated Medical Lectures.** Thirty-minute tape recordings and accompanying 35 mm. filmstrips, 50 to 80 full-color pictures for screen, hand or desk viewer. Available individually or by subscription. Twelve or 36 titles per year, all titles produced in one year in any chosen specialty. Projectors and viewers included in subscription plans. *Contact:* Loma Linda University, Illustrated Medical Lectures, Los Angeles 33.

For information contact: W. F. Norwood, Ph.D., Assistant Dean and Chairman, Division of Continuing Education, Loma Linda University, 1720 Brooklyn Ave., Los Angeles 33. ANgelus 9-7241, Ext. 214.

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*Fees to be announced.

†Hours to be announced.

CALIFORNIA MEDICAL ASSOCIATION POSTGRADUATE INSTITUTES—1962

Sacramento Valley Counties in cooperation with Loma Linda University. Feather River Inn, Blairsden. June 21 and 22, 1962. Sherman DeVine, M.D., General Chairman, 2530 H Street, Sacramento.

For information regarding Postgraduate Circuit Courses and Postgraduate Institutes, contact: Postgraduate Activities, California Medical Association, 693 Sutter Street, San Francisco 2. PRospect 6-9400, Ext. 68.

AUDIO-DIGEST FOUNDATION

AUDIO-DIGEST FOUNDATION, the California Medical Association's nonprofit subsidiary organized for the practicing physician's continuing postgraduate medical education, has just released its 1962 Catalog of Classics. Representing tape-recorded highlights of the past year's most significant medical meetings (American Medical Association, American College of Physicians, American Society of Anesthesiologists, American College of Obstetricians and Gynecologists, and dozens of university postgraduate courses) the new Catalog lists 355 one-hour tape-recordings representing all areas of medical practice. Copies of the catalog and information concerning continuing subscriptions to Audio-Digest programs (General Practice, Obstetrics-Gynecology, Anesthesiology, Pediatrics, Internal Medicine and Surgery) may be obtained by writing to Claron L. Oakley, Editor, 618 South Westlake Avenue, Los Angeles 57.

Medical Dates Bulletin

LOS ANGELES PEDIATRIC SOCIETY Annual Pediatric Residents Program Friday, May 18, 6:30 p.m., Los Angeles County Medical Association Building, 1925 Wilshire Boulevard, Los Angeles. *Contact:* Leslie M. Holve, M.D., secretary-treasurer, 1016 Gayley Avenue, Los Angeles 24.

CALIFORNIA HEART ASSOCIATION ANNUAL MEETING. Rickey's Studio Inn, Palo Alto. May 18 through 20. *Contact:* Brian O'Connell, executive director, California Heart Association, 1370 Mission Street, San Francisco 3.

THE PSYCHOPHARMACOLOGIC REVOLUTION—A DECADE LATER. Fourth Invitational Conference, Napa State Hospital, Imola. May 19. *Contact:* David C. Wilson, M.D., chief of Professional Education, Napa State Hospital, Imola.

FOURTH ANNUAL MEDICAL STAFF SYMPOSIUM of Memorial Hospital of Long Beach at Memorial Hospital, 2801 Atlantic Avenue, Long Beach. May 23. *Contact:* George X. Trimble, M.D., symposium secretary, Memorial Hospital of Long Beach.

TENTH ANNUAL CLIFFORD D. SWEET SEMINAR OF CHILDREN'S HOSPITAL OF THE EAST BAY. May 25 and 26. *Contact:* George Prlain, M.D., chairman. Children's Hospital of the East Bay, 51st and Grove Streets, Oakland 9.

ARTHRITIS AND RHEUMATISM FOUNDATION Northern California Chapter, program "Rheumatoid Arthritis: A Systemic Disease." Cubberley Hall, Stanford University, Palo Alto, June 2, 8:45 a.m. to 5:00 p.m. *Contact:* Robert D. Conover, director of Field Services, A.R.F., 126 Post St., San Francisco 8, SUtter 1-6687.

AMERICAN PUBLIC HEALTH ASSOCIATION WESTERN BRANCH'S Annual Meeting. Sheraton-Portland Hotel, Portland. June 4 through 8. *Contact:* Robert E. Mytinger, director, executive office, 693 Sutter Street, San Francisco 2.

AMERICAN ACADEMY PEDIATRICS, Southern California Area all day meeting, luncheon and banquet. Sunday, June 10, at Statler Hilton Hotel, Los Angeles. *Contact:* Deron Hovesepian, M.D., 1121 East Green Street, Pasadena.

RENO SURGICAL SOCIETY, Reno, Nevada. August 23 through 25. *Contact:* Donald F. Guisto, M.D., program chairman, 506 Humboldt Street, Reno.

NATIONAL KIDNEY DISEASE FOUNDATION, Southern California Chapter, Second Annual Symposium. September 13. Ambassador Hotel. Los Angeles. 9:00 a.m. to 5:00 p.m. *Contact:* Mrs. Jean Gordon, administrative assistant.

ST. JOHN'S HOSPITAL POSTGRADUATE ASSEMBLY. September 13 through 15. *Contact:* John C. Eagan, M.D., director, St. John's Hospital, 1328 22nd Street, Santa Monica.

LOS ANGELES COUNTY HEART ASSOCIATION Fall Symposium on Heart Disease. Statler Hilton Hotel, Los Angeles. September 26 and 27. *Contact:* Mr. Robert Stivelman, L. A. County Heart Association, 2405 W. 8th Street, Los Angeles 57.

SAN FRANCISCO HEART ASSOCIATION 32nd Annual Postgraduate Symposium on Heart Disease. St. Francis Hotel, San Francisco, September 26 through 28, 9:00 a.m. to 5:00 p.m. *Contact:* Gene C. Taylor, executive director, San Francisco Heart Association, 259 Geary Street, San Francisco 2.

SAN DIEGO COUNTY HEART ASSOCIATION 12th Annual Professional Symposium on Heart Disease. Town and Country Hotel, San Diego. September 28 and 29. *Contact:* Mr. O. M. Avison, executive director, 3545 4th Avenue, San Diego 3.

AMERICAN SOCIETY OF PLASTIC AND RECONSTRUCTIVE SURGERY, Hawaiian Village Hotel, Honolulu. *Contact:* T. Ray Broadbent, M.D., secretary, 508 E. South Temple, Salt Lake City. October (dates to be announced).

THE PACIFIC COAST FERTILITY SOCIETY 11th Annual Convention at the Mountain Shadows Hotel, Scottsdale (Phoenix), Arizona, October 4 through 7. *Contact:* Gregory Smith, M.D., secretary, 909 Hyde Street, San Francisco 9.

CALIFORNIA CONGRESS ON MEDICAL QUACKERY. San Francisco. October 10. *Contact:* Eugene G. Miller, M.D., 693 Sutter Street, San Francisco.

ANNUAL MEETING, CALIFORNIA DIVISION OF THE AMERICAN CANCER SOCIETY. October 11 and 12. Del Webb's Town House, San Francisco. *Contact:* Mr. Robert Murphy, 875 O'Farrell Street, San Francisco.

WESTERN INDUSTRIAL MEDICAL ASSOCIATION. Jack Tar Hotel, San Francisco. October 12 and 13. *Contact:* B. M. Brundage, M.D., secretary, Atomics International, P. O. Box 309, Canoga Park, Calif.

CALIFORNIA ACADEMY OF GENERAL PRACTICE Annual Meeting. Masonic Memorial Temple, San Francisco. October 21 through 24. *Contact:* Mr. William W. Rogers, executive secretary, 9 First Street, Room 900, San Francisco 5.

KERN COUNTY GENERAL HOSPITAL Second Annual Postgraduate Conference and Alumni Day. October 26. *Contact:* George A. Paulsen, M.D., chairman, Conference Committee, Kern County General Hospital, 1830 Flower Street, Bakersfield.

CALIFORNIA SOCIETY OF INTERNAL MEDICINE Annual Meeting. October 26 through 28. Mark Thomas Inn, Monterey. *Contact:* Robert L. Paver, M.D., secretary-treasurer, 350 Post Street, San Francisco 8.

AMERICAN FRACTURE ASSOCIATION. October 27 through November 4, Huntington-Sheraton Hotel, Pasadena. *Contact:* H. W. Wellmerling, M.D., secretary-general, 610 Griesheim Building, Bloomington, Illinois.

WESTERN ORTHOPAEDIC ASSOCIATION. October 23 through November 1. Fairmont Hotel, San Francisco. *Contact:* Mrs. Vi Mathiesen, executive secretary, 351 21st Street, Oakland 12.

NEVADA STATE MEDICAL ASSOCIATION 59th Annual Meeting. October 31 through November 3. Stardust Hotel, Las Vegas. *Contact:* Nelson B. Neff, executive secretary, Nevada State Medical Association, 506 Humboldt Street, Reno, Nevada.

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY, Las Vegas Convention Center, Las Vegas. November 4 through 9. *Contact:* W. L. Benedict, M.D., executive secretary-treasurer, 15 Second Street, S.W., Rochester, Minn.

LOS ANGELES PEDIATRIC SOCIETY 19th Annual Brennemann Lectures, Ambassador Hotel, Los Angeles. November 7 and 8. *Contact:* Leslie M. Holve, M.D., secretary, 1015 Gayley Avenue, Los Angeles 24.

SAN DIEGO COUNTY GENERAL HOSPITAL 16th Annual Postgraduate Assembly, in conjunction with University of Oregon Medical School. November 9 and 10. Town and Country Hotel, San Diego. *Contact:* David E. Wile, M.D., chairman, 2850 6th Avenue, San Diego 3.

AMERICAN COLLEGE OF PHYSICIANS, Southern California Region Annual Basic Science Lectureship Dinner. Statler Hotel, Los Angeles, November 14, 6:30 p.m. *Contact:* George C. Griffith, M.D., Governor for Southern California, P. O. Box 25, 1200 North State Street, Los Angeles 33.

AMERICAN COLLEGE OF CHEST PHYSICIANS (Interim Session). November 24 and 25. Ambassador Hotel, Los Angeles. *Contact:* Mr. Murray Kornfeld, executive director, 112 E. Chestnut Street, Chicago 11.

AMERICAN MEDICAL ASSOCIATION CLINICAL MEETING, Los Angeles. November 25 through 28. *Contact:* F. J. L. Blasingame, M.D., executive vice-president, 535 N. Dearborn, Chicago 10.

AMERICAN MEDICAL WOMEN'S ASSOCIATION, Ambassador Hotel, Los Angeles. November 29 through December 2. *Contact:* Jessie Laird Brodie, M.D., executive director, 1790 Broadway, New York 19.

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SEARLE

Research in the Service of Medicine

Data Needed on Nuclear Targets To Plan Shelters

Authoritative estimates on the location of potential nuclear target areas are needed to choose effective family and community shelter designs, according to an article in the April 7 *Journal of the American Medical Association.*

Although many families live within potential target areas, the Office of Civil Defense has made no specific recommendations for protective construction in these areas, Philip W. Russell, M.D., and Laddie G. Kimbrel, M.S., Wichita, Kan., said.

"The target area is that area surrounding the target point which could be within range of the blast, heat, or initial nuclear radiation from a weapon aimed at the target point; fallout effects are excluded from this definition," they said.

The Department of Defense is not required to say specifically when, or where, or how much shelter should be constructed by families, the authors said. Since all families live within a potential fallout area, the official recommendation is that all families should have a fallout shelter, they said.

However, the authors presented data showing that in a target area the risk of death can vary greatly between one type of shelter and another.

A person four miles from the target point of a 5-megaton intercontinental ballistic missile (ICBM) would run a 97 per cent risk of being killed if he were in a basement fallout shelter but would run only an 8 per cent risk if he were in an underground shelter.

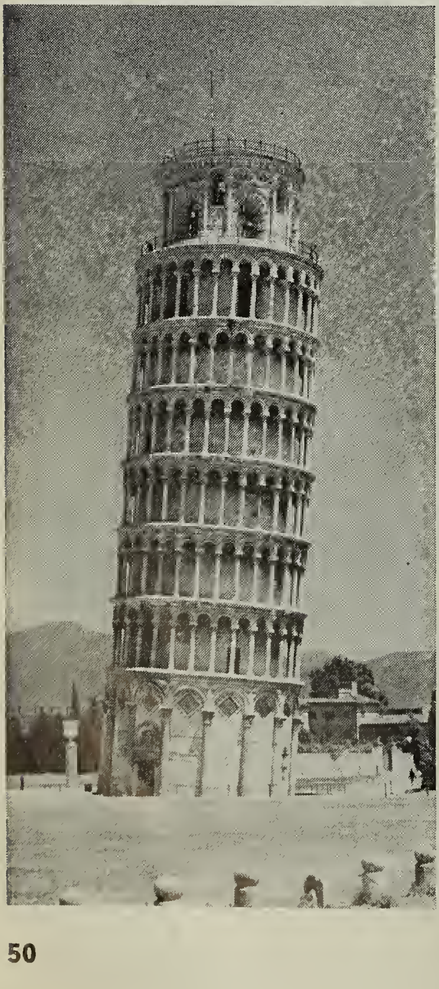
The fallout shelter used in the example was the widely distributed design calling for a basement construction with eight-inch, unreinforced concrete blocks. It was compared with an underground shelter with radiation shielding equivalent to 12 inches of concrete plus 30 inches of earth.

The Office of Civil Defense, on the premise that survival cannot be assured in the vicinity of a nuclear explosion, has made no specific recommendation for shelters in target areas other than utilization of existing buildings or construction of fallout shelters, the authors said. However, they said, Nevada tests "prove that survival in certain shelters is feasible at relatively close distances from ground zero."

Shelter survival is dependent upon shelter design, energy yield of the nuclear weapon, and distance from the blast, they said. Although the weapon yield and the shelter distance from ground zero would be unknown in a defensive target area, they said, the probability of survival within a shelter of known design can be estimated statistically as a function of the distance from the target point for various weapon yields.

Estimates of survival probability which exist concern protective construction for military installa-

(Continued on Page 66)



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1. *Methyltestorone-Thyroid in Treating Impotence,* A. S. Titeff, *General Practice, Vol. 25, No. 2, Feb., 1962, pp. 6-8.*
2. *Thyroid-Androgen Relations,* L. Hellman, et al., *The Jrl. of Clin. Endocrinology and Metabolism, August 1959.*

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1. Miller, E. D., Jr., and Roller, G. W.: M. Times 89:196 (Feb.) 1961

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Indications and effects: The clinical indication for Orinase is stable diabetes mellitus. Its use brings about the lowering of blood sugar; glycosuria diminishes, and such symptoms as pruritus, polyuria, and polyphagia are alleviated.

Dosage: There is no fixed regimen for initiating Orinase therapy. A simple and effective method is as follows: **First day**—6 tablets; **second day**—4 tablets; **third day**—2 tablets. The daily dose is then adjusted—raised, lowered or maintained at the two-tablet level, whichever is necessary to maintain optimum control.

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Contraindications and side effects: Orinase is contraindicated in patients having juvenile or growth-onset, unstable or brittle types of diabetes mellitus; history of diabetic coma, fever, severe trauma or gangrene. Side effects are mild, transient and limited to approximately 3% of patients. Hypoglycemia and toxic reactions are extremely rare. Hypoglycemia is most likely to occur during the period of transition from insulin to Orinase. Other untoward reactions to Orinase are usually not of a serious nature and consist principally of gastrointestinal disturbances, headache, and variable allergic skin manifestations. The gastrointestinal disturbances (nausea, epigastric fullness, heartburn) and headache appear to be related to the size of the dose, and they frequently disappear when dosage is reduced to maintenance levels or the total daily dose is administered in divided portions after meals. The allergic skin manifestations (pruritus, erythema, and urticarial, morbilliform, or maculopapular eruptions) are transient reactions, which frequently disappear with continued drug administration. However, if the skin reactions persist, Orinase should be discontinued.

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Many Cases of Rheumatic Fever Are Preventable

Many initial attacks of rheumatic fever can be prevented by proper medical care of sore throats, an article in the March 17 *Journal of the American Medical Association* said.

A sore throat may occur prior to the onset of the disease in roughly 50 per cent of the cases, and in these persons, the illness can be prevented, the article said.

"Many preventable attacks of rheumatic fever occur because patients with sore throats do not seek or receive adequate treatments," Drs. Alvan R. Feinstein, medical director of Irvington House, Irvington-on-Hudson, N. Y., and Juanita G. Zagala, Manila, P. I., former research fellow at Irvington House, wrote in the *Journal.*

"This situation can be improved by greater education of patients and parents to the need for medical examination of each sore throat, particularly in childhood or adolescence."

Rheumatic fever, which commonly develops following throat infections caused by the Group A streptococcus, is a disease characterized by fever, painful migratory arthritis and possible heart damage, which most frequently attacks the young.

In a study of 183 rheumatic fever patients ranging in age from 3 to 18, 46 per cent had suffered a previous sore throat, the authors said. But none had received adequate treatment, administration of penicillin, they said.

This study emphasizes the necessity for adequate antibiotic therapy to prevent first attacks of rheumatic fever in patients with streptococcal sore throats, they said.

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CEREBRAL OTORRHEA—M. A. Frable, P. Oppenheimer, and W. Harrison. Arch. Otolaryng.—Vol. 75:208 (March) 1962.

The etiology, pathology, complications, and treatment of cerebrospinal fluid otorrhea are reviewed, and the necessity of prompt surgical closure of the dural defect is stressed. A case report of dural defect secondary to head trauma is presented.

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Data Needed on Nuclear Targets To Plan Shelters

(Continued from Page 50)

tions, they said, and are not available for public distribution.

The authors said their calculations were based on information gleaned from assorted publications dating back to 1952.

"The chief uncertainty in estimating kill probability is the location of the target point which need not be as conspicuous as a missile site," they said. "An authoritative designation of arbitrary target points, or at least of target areas, would facilitate planning for adequate voluntary protective construction."

Dr. Russell is affiliated with the department of internal medicine, The Wichita Clinic, and the Midwest Medical Research Foundation. Kimbrel is an aerodynamics engineer with The Boeing Company.

REVIEW OF CONTEMPORARY MANAGEMENT OF NARCOTICS ADDICTION—M. Martin and T. E. Dancey. Canad. Med. Ass. J.—Vol. 86:326 (Feb. 17) 1962.

In the field of narcotic addiction there is confusion and contradiction. However, a recent visit to some newer projects in the United States suggested that a special type of community follow-up was of the greatest importance. Detoxification preceding this could be carried out in hospital wards for narcotic offenders. Both in the detoxification and rehabilitation the medical man has a part to play.

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Sedentary Habits Cause Backache

Exercise is the answer to backache caused by sedentary habits, it was reported in a scientific journal of the American Medical Association.

A lack of physical activity is a major cause of low back pain and exercise can prevent as well as remedy the situation, Hans Kraus, M.D., and Sonya Weber, D.Sc., New York City, wrote in the April *Archives of Environmental Health.*

Their conclusion was based on a study of 52 psychoanalysts, a highly sedentary group, and earlier research by Dr. Kraus, who has been interested in the subject for 20 years.

Each analyst was tested to determine his muscle deficiencies and exercises were specifically prescribed to overcome these weaknesses, the authors said.

The exercises started with gentle movements and were increased gradually as strength and flexibility improved, they said. After the exercises were learned, the analysts were told to perform them at home at least once a day for 5 to 20 minutes.

The researchers were able to follow the progress of 26 of the 52 analysts for from 2 to 10 years.

Of the 26, who originally complained of low back pain along with pain in the upper back, neck, shoulder area and legs, "8 had no pain at all, and 18 had definite relief from pain" at their final examination, the authors said.

"They all showed considerable improvement in muscle strength and flexibility," they said.

In some cases, pain recurred when exercises were suspended, it was pointed out.

Lack of exercise may operate in different ways to produce painful muscular conditions, the authors explained.

"It may cause weakness and stiffness in muscles, since—as is generally known—a muscle only maintains the efficiency at which it is ordinarily used," they said. "On the other hand, inability to respond to stimuli and the need to assume identical posture for long periods of time may store tension in certain muscle groups and manifest itself in consider-

(Continued on Page 14)

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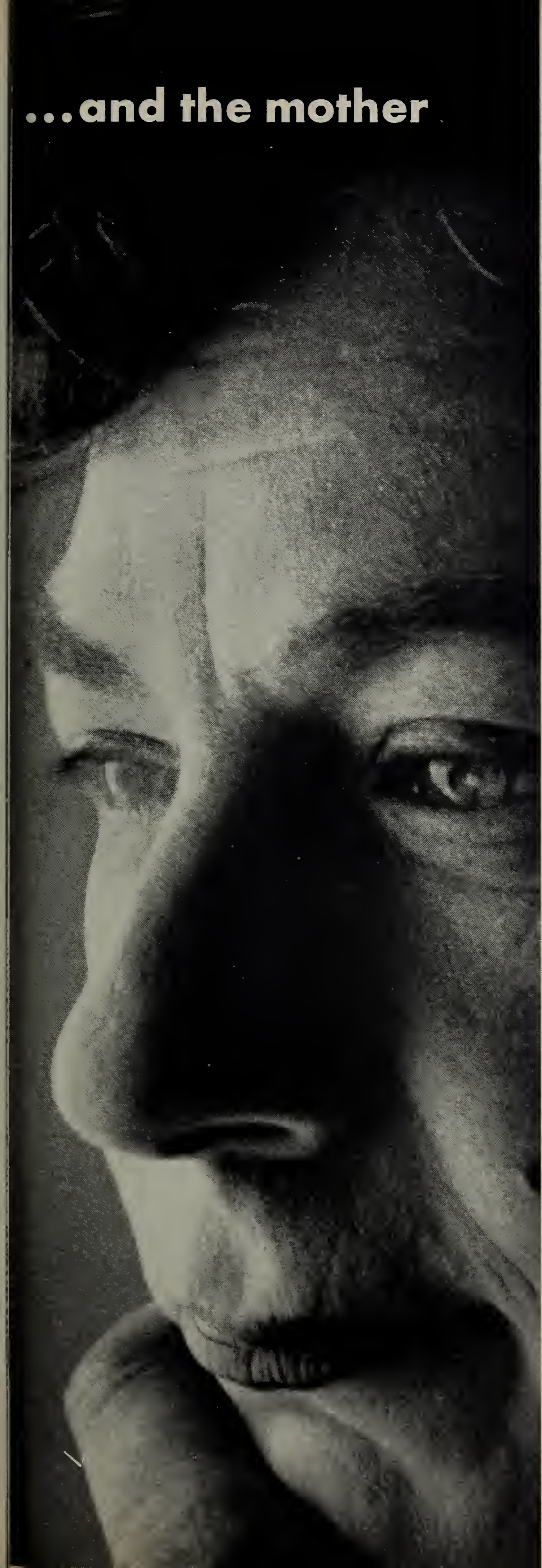

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Sedentary Habits Cause Backache

(Continued from Page 10)

able pain. This category is usually referred to as 'tension syndrome' and includes many cases of stiff neck, painful shoulder, painful upper and lower back, and painful leg and arm muscles."

To gain an impression of the magnitude of complaints among analysts possibly due to underexercise and unreleased tension, the researchers also sent a questionnaire to the 750 members of the American Psychoanalytical Association.

A total of 489 questionnaires were returned, they said. Of these, 144 exercised and had no pain; 107 did not exercise at all and had pain; 47 had pain which was relieved by exercise; 52 had pain despite physical activity; 29 did not exercise at all and had no pain; 44 reported an organic disease involving the lower back, and the remaining 66 could not be evaluated, they said.

If the unevaluated group and those with organic disease are disregarded, the authors said, it can be inferred that the remaining 379 analysts would not have had pain if they had performed sufficient and appropriate exercises.

"This study bears out the experience reported previously that lack of physical activity is the major cause for low back pain and tension syndromes and the exercise has both preventive and remedial value," they said.

The findings also show that a test of muscle strength and flexibility can indicate the borderline of minimum muscular fitness below which expectancy of back pain is high, they said.

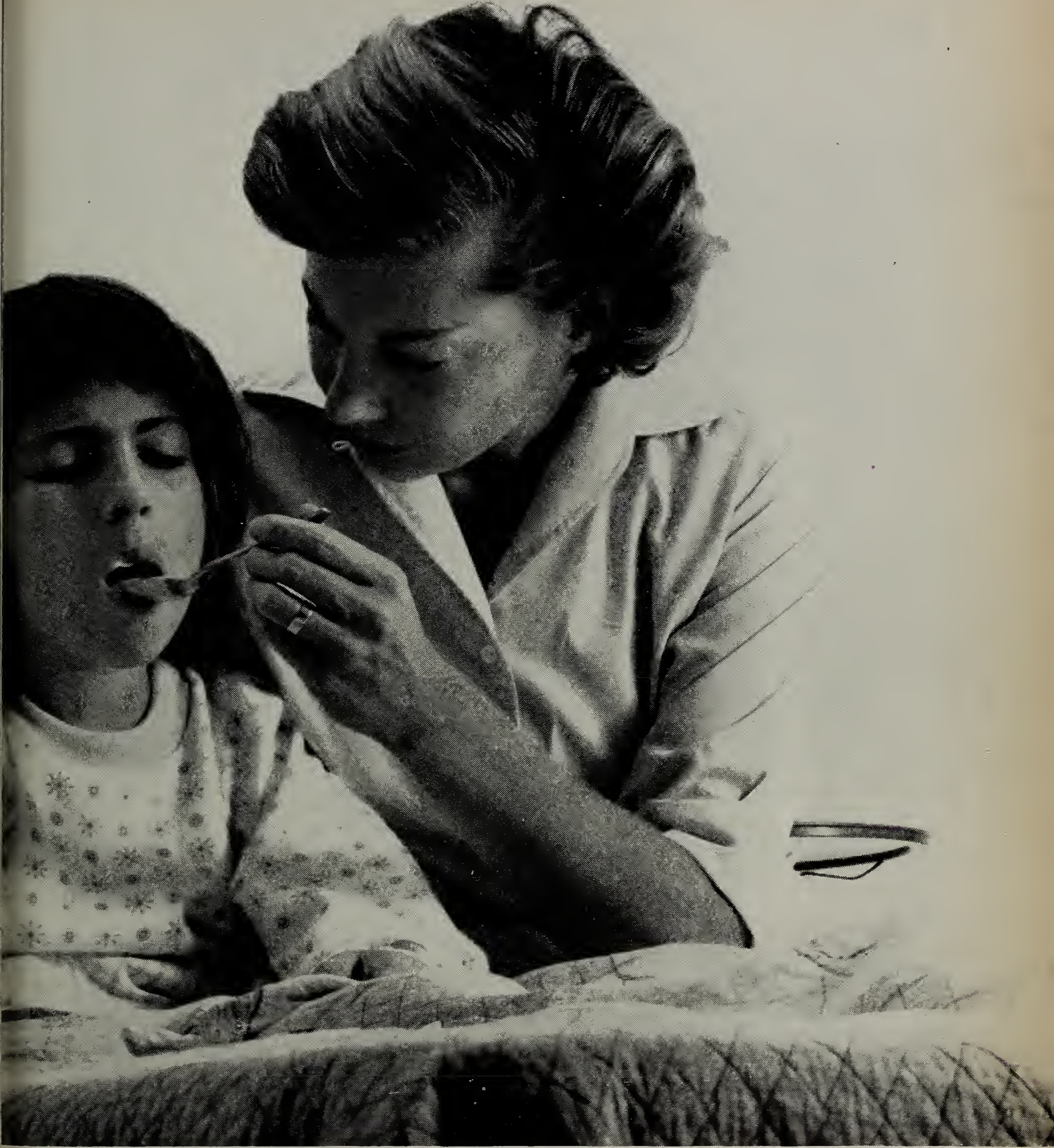
An earlier study conducted by Dr. Kraus indicated that 80 per cent of 5,000 physically inactive persons with back pain had "muscular deficient" backs.

The chances of preventing back pain in persons in such a sedentary occupation as psychoanalyst can be improved by such simple measures as changing chairs frequently when working; changing head posture; taking five-minute "breaks" for mild exercise such as walking up and down; incorporating 10 to 30 minutes of exercises into the daily routine; developing walking habits, including stairs, and engaging in some such activity as walking, swimming, tennis, or gardening on week-ends and on one weekday, the authors said.

"The time thus spent would be regained by avoidance of days of disability and discomfort," they said.

Blood Coagulum Packing in Middle Ear Surgery—M. C. Culbertson, Jr., and R. Rember. Arch. Otolaryng.—Vol. 75: 198 (March) 1962.

The authors believe that a blood clot is at present the best agent for packing middle ears in many cases of tympanoplasty, particularly those using vein and canal-wall skin grafts. Preparation of this coagulum by centrifuging of blood produced a more easily usable packing material. A description of the technique is given.



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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE *are acknowledged in this column. Selections will be made for more extensive review in the interest of readers as space permits.*

CLINICAL PATHOLOGY—Application and Interpretation—Third Edition—Benjamin B. Wells, M.D., Ph.D., Assistant Chief Medical Director for Research and Education in Medicine, Veterans Administration; former Professor of Medicine and Chairman of the Department of Medicine, Creighton University School of Medicine, Omaha. W. B. Saunders Company, Philadelphia, Pa., 1962. 541 pages, $9.00.

FUTURE OF PSYCHIATRY, THE—Edited by Paul H. Hoch, M.D., Department of Mental Hygiene, State of New York; College of Physicians and Surgeons, Columbia University, New York City, and Joseph Zubin, Ph.D., Department of Mental Hygiene, State of New York; Department of Psychology, Columbia University, New York City. The Proceedings of the Fiftieth Annual Meeting of the American Psychopathological Association, held in New York City, February 1961. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1962. 271 pages, $8.75.

KEY TO LASTING SLIMNESS—Corinne Collins. Foreword by Dr. Jean Mayer, Associate Professor of Nutrition, Harvard University. Published by J. Richard Collins, P.O. Box 4828, San Francisco 1, Calif., 1960. Paperback, 80 pages, $1.00.

MANUAL OF ELECTROTHERAPY, A—Second Edition, Thoroughly Revised, 157 Illustrations and a Plate in Color—Arthur L. Watkins, M.D., Assistant Clinical Professor of Medicine, Harvard Medical School; Chief of Physical Medicine, Massachusetts General Hospital; Medical Director, Bay State Medical Rehabilitation Clinic, Boston, Mass. Lea & Febiger, Washington Square, Philadelphia 6, Pa., 1962. 272 pages, $5.00.

MARTINI'S PRINCIPLES AND PRACTICE OF PHYSICAL DIAGNOSIS—3rd Edition—Revised by Yale Kneeland, Jr., M.D., Professor of Medicine, Columbia University; Attending Physician, Presbyterian Hospital, New York City; and Robert F. Loeb, M.D., Bard Professor of Medicine, Emeritus, Columbia University; Consultant, Presbyterian Hospital, New York City. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pa., 1962. 275 pages, $4.75.

MODERN MEDICAL TREATMENT—By Various Authors—Edited by Henry Miller, M.D., F.R.C.P., Physician in Neurology, Royal Victoria Infirmary, Newcastle upon Tyne. Williams & Wilkins Co., Baltimore 2, Maryland, exclusive U. S. agents, 1962. 416 pages, $7.00.

PHYSICAL DIAGNOSIS—Sixth Edition, Illustrated—Ralph H. Major, M.D., Professor of Medicine and of the History of Medicine, and Mahlon H. Delp, M.D., Professor of Medicine, The University of Kansas. W. B. Saunders Company, Philadelphia, Pa., 1962. 355 pages, $7.50.

POSTTHROMBOPHLEBITIC SYNDROME, THE—Roy J. Popkin, M.D., F.A.C.A., Attending in Medicine, Cedars of Lebanon Hospital; Chief (Emeritus), Peripheral Vascular Disease Clinic, Cedars of Lebanon Hospital, Los Angeles, Calif. Charles C. Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Ill., 1962. 211 pages, $8.50.

PRIMER OF WATER, ELECTROLYTE AND ACID-BASE SYNDROMES, A—Second Edition, Thoroughly Revised, Illustrated—Emanuel Goldberger, M.D., F.A.C.P., Attending Physician, Montefiore Hospital; Consulting Cardiologist, Lincoln and Misericordia Hospitals; Lecturer in Medicine, Columbia University, New York, New York. Lea & Febiger, Washington Square, Philadelphia 6, Pa., 1962. 374 pages, $6.00.

PRINCIPLES AND PRACTICE OF MEDICINE, THE—A Textbook for Students and Doctors—Sir Stanley Davidson, B. A. Cantab., M.D., F.R.C.P. Edin., F.R.C.P., Lond., M.D. Oslo, F.R.S. Edin., Extra Physician to H.M. the Queen in Scotland; Professor of Medicine and Clinical Medicine, University of Edinburgh, 1938-59; Physician-in-Charge, Royal Infirmary, Edinburgh, 1938-59; Regius Professor of Medicine, University of Aberdeen, 1930-38, and Past and Present Members of The Staff of the Department of Medicine, University of Edinburgh, and Associated Clinical Units. The Williams & Wilkins Co., Baltimore, Md., 1960. 1139 pages, $8.00.

PSYCHOCHEMOTHERAPY—The Physician's Manual—Edmund Remmen, M.D., Editor, Western Medicine; Sidney Cohen, M.D., Assistant Clinical Professor, University of California (LA); Keith S. Ditman, M.D., Assistant Professor, Neuropsychiatric Institute, UCLA Medical Center; and John Russell Frantz, M.D., Associate Clinical Professor of Psychiatry, Loma Linda University. Western Medical Publications, 1721 W. Olympic Blvd., Los Angeles 15, 1962. 152 pages, $4.50.

RADIOACTIVE ISOTOPES IN MEDICINE AND BIOLOGY: MEDICINE—Second Edition, 49 Illustrations—Solomon Silver, M.D., Attending Physician; Chief, Thyroid Clinic, The Mount Sinai Hospital; Associate Clinical Professor of Medicine, College of Physicians and Surgeons, Columbia University, New York. Lea & Febiger, Washington Square, Philadelphia 6, Pa., 1962. 347 pages, $8.00.

(Continued on Page 22)

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Gallbladder Surgery	3 Days, June 18, Oct. 8
Surgery of Hernia	3 Days, June 21, Oct. 11
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Advances in Surgery	One Week, Dec. 10
Blood Vessel Surgery	One Week, Oct. 22
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BOOKS RECEIVED

(Continued from Page 18)

SHOCK—PATHOGENESIS AND THERAPY—An International Symposium Sponsored in Stockholm, 27th-30th June, 1961, by CIBA—U. S. von Euler, Stockholm, Chairman; edited by K. D. Bock, Basle. Springer-Verlag, Berlin, Gottingen, Heidelberg, 1962. Copies are available from Academic Press in New York City at $13.00 each.

STUDY OF PSYCHOPHYSICAL METHODS FOR RELIEF OF CHILDBIRTH PAIN, A—C. Lee Buxton, M.D., Department of Obstetrics and Gynecology, Yale University School of Medicine. W. B. Saunders Company, Philadelphia, Pa., 1962. 116 pages, $4.75.

THANNHAUSER'S TEXTBOOK OF METABOLISM AND METABOLIC DISORDERS—Second Edition—Edited by Nepomuk Zollner, Associate Professor of Internal Medicine and Senior Research Assistant in Medicine, University of Munich, Germany; with an introduction by S. J. Thannhauser. American edition translated and edited by Solomon Estren, M.D., F.A.C.P., Associate Attending Hematologist, The Mount Sinai Hospital; Associate Physician, Hematology, Mother Cabrini Memorial Hospital, New York City; Attending in Hematology, Veterans Administration Hospital, Bronx, New York. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1962. Vol. I, 462 pages, $17.50. (Vol. II not published yet.)

TROPICAL RADIOLOGY—Howard Middlemiss, M.D., F.F.R., D.M.R.D., Director of Radiology, United Bristol Hospitals; Head of Department of Radiodiagnosis, University of Bristol. Intercontinental Medical Book Corporation, 381 Fourth Avenue, New York 16, N. Y., 1962. 272 pages, $10.00.

Good Nursery Schools Offer Advantages

A nursery school operated professionally and competently has "strong advantages" for most children at the age of three or four, according to Willard Abraham, Ph.D., chairman of the department of special education, Arizona State University, Tucson, Ariz.

But nursery schools are not the answer for all childhood problems of insecurity, speech, and slow maturing, he said.

Writing in the April *Today's Health*, published by the American Medical Association, Dr. Abraham said nursery schools will not compensate for the rejection a child may feel when a new baby enters the home scene and they cannot make up for a broken home, parents who never wanted him in the first place, or a mother who puts her pleasures or luxuries ahead of him.

They can be of only limited help in these situations, he said.

Nursery schools represent "a wedge toward the bigger world which the child can enter gradually,"

(Continued on Page 32)

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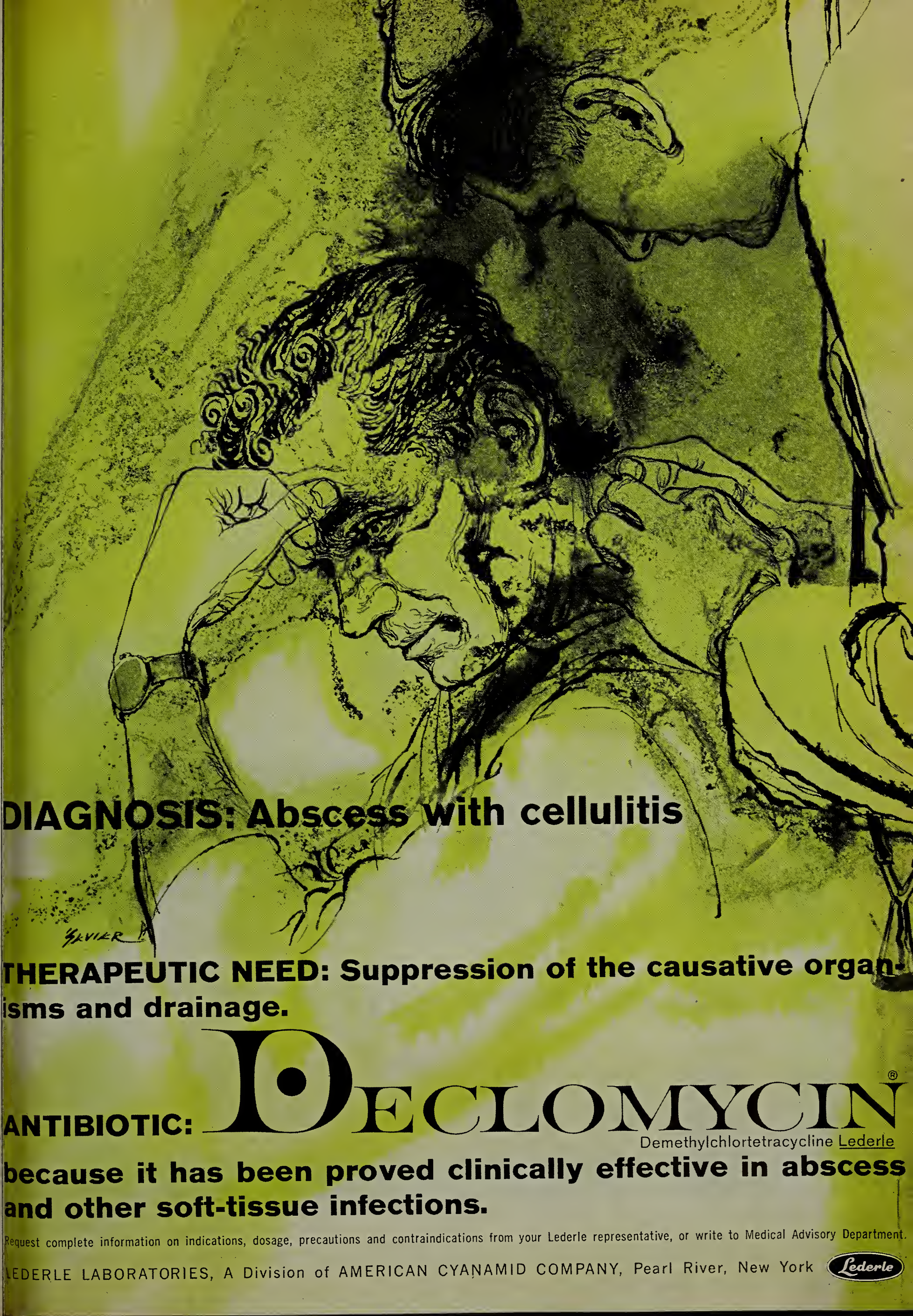

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Dr. E. A. Park, 84, Wins Goldberger Award

Dr. Edwards Albert Park, veteran Baltimore scientist whose findings played a major part in eliminating rickets as an important health problem for American children, will be honored with the American Medical Association's highest award in clinical nutrition next June.

Dr. Park, 84, professor emeritus of pediatrics at Johns Hopkins Hospital, has been named by the A.M.A.'s Board of Trustees to receive the 1962 Joseph Goldberger Award. A pioneer in the field of human nutrition in the United States, Dr. Park will receive a commemorative plaque and $1,000.

The presentation will be made at the American Medical Association's annual meeting in Chicago June 24-28. Dr. Park will deliver the annual Goldberger lecture at the meeting. His subject will be "The Imprinting of Nutritional Disturbances on the Growing Bone."

The Goldberger Award was established in 1949 by the A.M.A. Council on Foods and Nutrition in cooperation with the Nutrition Foundation, Inc. The award is in honor of Dr. Joseph Goldberger, who was chiefly responsible for the discovery of the cause and treatment of pellagra. Last year's award winner was Dr. Frederick J. Stare, chairman of the department of nutrition at Harvard University.

In addition to the award itself, the A.M.A. annually bestows 10 fellowships in nutrition in honor of the Goldberger recipient. These fellowships to young medical students are given each spring.

Dr. Park's investigations of rickets and scurvy established and clarified the patterns of both of these nutritional diseases. In his nutritional research, the production of experimental rickets in rats by dietary means was developed and the anti-rickets activity of cod liver oil was proved.

Dr. Park then applied this information to the study of infants. These studies culminated in the development of effective diagnostic techniques and radiographic methods for the study of the healing of

(Continued on Page 36)

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REFERENCES AND REVIEWS

Role of Sodium Estrone Sulfate in Hemoptysis—R. K. Narang. Amer. Rev. Resp. Dis.—Vol. 85:436 (March) 1962.

Sodium estrone sulfate (Premarin) was tried in 20 cases of hemoptysis complicating cavitary pulmonary tuberculosis. Bleeding stopped in less than 1 hour in 13 cases, in 5 hours in 1, and in more than 6 hours (maximum 11 hours) in 4. There was no response in 2. Fourteen required 1 intravenous injection of 20 mg. and 4 required 2 injections given 6 hours apart. No side effects were observed.

* * *

Management of Epistaxis Other Than from Little's Area—J. A. Harpman. Arch. Otolaryng.—Vol. 75:254 (March) 1962.

Personal experience of the investigation, causes and management of severe epistaxis other than from Little's area is reported. Medical therapies, packing with oxycell gauze, and surgical obliteration of the anterior ethmoid artery and of the internal maxillary artery in the pterygoid fossa are described in detail.

* * *

Preliminary Report: Dihydrotestosterone-Hypocholesterolemic Androgenic Hormone—J. F. Dingman and W. H. Jenkins. Metabolism—Vol. 11:273 (Feb.) 1962.

Dihydrotestosterone (DHT) and its long-acting cyclopentylpropionate ester produced satisfactory androgenic effects in patients with androgen deficiency. DHT also lowered serum cholesterol levels in some patients. These combined actions suggest that this steroid may represent an ideal androgenic hormone for clinical use.

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State Personnel Board,
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* * *

Femoral Venous Valves in Relation to Varicose Veins—J. Ludbrook and G. Beale. Lancet—Vol. 1:79 (Jan. 13) 1962.

A technique for detecting competent valves above the saphenofemoral junction is described. A significant relation was found between absent valves and a positive family history of varicose veins. Subjects with varicose veins had incompetent valves while standing. The authors suggest that the inguinal ligament provided protection against the effects of coughing on the femoral venous valves.

* * *

Simple Suction Apparatus—K. W. Wilson and R. B. Zachary. Lancet—Vol. 1:83 (Jan. 13) 1962.

There is a place in surgical wards for gentle continuous intragastric suction. Small fish tank aerators consisting of an electromagnet and air valve mechanism may be modified to provide simple, efficient pumps by fitting polythene tubing into the intake part of the valve or by using a reversed air valve.

* * *

Diabetes and Lens Changes in Myotonic Dystrophy—K. A. Simon. Arch. Ophthal.—Vol. 67:312 (March) 1962.

In a series of patients with myotonic dystrophy, typical lenticular opacities were observed in 90 per cent. In 29 per cent of the group, the presence of diabetes mellitus was diagnosed and a positive correlation was established between these patients and patients with moderate impairment of visual acuity due to lens changes.

* * *

Duplication of Benefits—D. Soutar. Arch. Environ. Health—Vol. 4:356 (March) 1962.

A survey of employee benefits for injury or illness, provided under private or government sources, reveals duplications that seriously jeopardize their effectiveness, purpose and future. The author outlines legislation and programs that duplicate benefits, points out the extent of duplication, and suggests changes and improvements. The survey reveals that benefits substantially exceed earnings for work, and the author suggests areas where corrections are necessary to reaffirm the original purposes and principles of the system.

* * *

Health Aspects of Air Pollution—P. Drinker. Arch. Environ. Health—Vol. 4:221 (March) 1962.

A critical review of the last few years' literature and discussions of the important health implications are presented. Crowding, urban sprawl, and ever-increasing use of motor vehicles have brought many urban communities to appreciate the need of intelligent control of aerial garbage. California has adopted a system of warnings or alerts of air pollution, based on air analyses. They expect soon to be able to require motor vehicles to be equipped with adequate combustion devices for rendering harmless the discharge of unwanted impurities. It seems likely that other communities will follow closely California's progress in this control and will profit from it.

* * *

Effect of D-Triiodothyronine on Hypercholesterolemic Subjects—N. B. Baroody and W. G. Baroody. Amer. J. Med. Sci.—Vol. 243:338 (March) 1962.

D-Triiodothyronine was administered to 14 patients with hypercholesterolemia for 9 to 12 months. Patients were carefully checked before, during, and after study as to serum cholesterol levels, cardiovascular effects, and hyperthyroid effects. After treatment, serum cholesterol was significantly diminished in 10 of the 14 patients studied. Increased angina was observed in 3 patients and evidence of hyper-

(Continued on Page 34)

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Good Nursery Schools Offer Advantages

(Continued from Page 22)

Dr. Abraham said. They also offer "an open door to the beginning of science, numbers, music, and art, to concepts of time and space—and another link in the reading process" he said.

Most children can profit from this expanded experience, he said, but only if:

—The child is ready to be away from home part of the day.

—The school supplements, rather than duplicates, the home.

—The staff, equipment and physical setting are appropriate to the child's needs.

"When the child should start and how long he ought to attend is an individual matter which differs from child to child," he said. "However, few can begin profitably at the age of two—and many gain relatively little from more than one year, unless the second year is especially planned to meet their changing physical and emotional needs."

Many different kinds of nurseries are available, he said, and parents should obtain as much information as possible before deciding on whether to enter their child in a particular one.

"The caliber of the nursery school and the specific needs of the child are the decisive factors in how practical this experience will be," Dr. Abraham concluded.

Expectant Mother Survives Heart Attack

A 33-year-old expectant mother survived a heart attack in the eighth month of pregnancy and gave birth to a normal, healthy son, it was reported in the March 24 *Journal of the American Medical Association.*

The case was reported by Drs. Eli Shapiro, Richard J. Rosen, Bernard Lederman and Robert J. Carey, Boston.

The occurrence of a heart attack during pregnancy is "a rare phenomenon," they said. Among the few cases reported, no patients recovering from the acute phase of a heart attack died during labor, they said.

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1. Cohen, B. M.: M. Times 88:855 (July) 1960. 2. Cohen, B. M.: Méd. et Hyg. (Genève) #494, p. 210 (Mar. 15) 1961.

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STUDY 2 *Lubowe, I. I.: Western Med. 1:45, 1960.*

satisfactory results in 94% of cases

comments: Sardo "reduced inflammation, itching, irritation, and other discomfort..."

STUDY 3 *Weissberg, G.: Clin. Med. 7:1161, 1960.*

satisfactory results in 92% of cases

comments: "Scaling disappeared, and... the skin became softer and smoother..." with Sardo.

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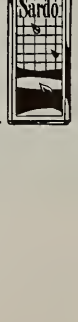

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Pyridoxine HCl (Vitamin B_6)	1.0 mg
Ferrous Gluconate	65.0 mg
(Iron	7.5 mg)
Calcium Lactate	270.0 mg
(Calcium	35.0 mg)
Copper (as Sulfate)	0.15 mg
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Wallet-Size Lung X-Ray Film Aids Transient Patient

A wallet-size x-ray film has been devised for the future reference of physicians treating patients with lung disease whose occupation requires moves to different locations.

It is frequently desirable and often essential for a physicians to review previous x-rays of patients with lung disease who have abnormal chest x-rays, Robert B. Stonehill, MC, USAF, and Frank A. Johnson, M.D., Lackland, Tex., wrote in the May 5 *Journal of the American Medical Association.*

Obtaining earlier x-rays is "frequently a vexing, time-consuming problem," they said. "This is true especially in a migrating population, such as in the armed forces personnel and their dependents. The same difficulty is encountered in civilian medical practice, but less often."

This frequently delays diagnosis and therapy, they said. Occasionally, the patient is submitted to surgical, diagnostic procedures which could have been avoided if previous x-ray films had been available.

Consequently, the authors said, a patient with x-ray abnormalities when discharged from USAF Hospital Lackland is given a film of his x-ray negative trimmed to 2¼ by 2½ inches which can be carried easily in his wallet.

When a patient's occupation or situation necessitates movement to new locations, the delay experienced in obtaining previous x-rays might well be avoided by this simple procedure, they said.

REFERENCES AND REVIEWS

(Continued from Page 30)

thyroid effect observed in 3 patients. Significant weight loss occurred in 6 patients. No serious side effects or reaction to D-Triiodothyronine was observed in the 14 patients studied.

* * *

THE FEDERAL HAZARDOUS SUBSTANCES LABELING ACT—T. W. Nale. Arch. Environ. Health—Vol. 4:239 (March) 1962.

A brief history is given of the background of work in the field of precautionary labeling of hazardous substances, which culminated in the passage of the Federal Hazardous Substances Labeling Act. The principal definitions contained in the Act are presented, and the regulations issued by the Food and Drug Administration on Aug. 12, 1961, are reviewed. Based on this information, a series of examples are presented as demonstration of precautionary labels prepared to conform with the Act and current regulations.

* * *

POTENTIAL EXPOSURES FROM X-RAY AND SEALED RADIOISOTOPES—R. G. McAllister. Arch. Environ. Health—Vol. 4:265 (March) 1962.

The potential hazard of radiation exposure is great from industrial use of x-ray machines and gamma-ray sources for radiography. Steadily expanding use will enhance the potential hazard. Records of accidental radiation injury from these devices have been extremely favorable, as compared to early record of medical use. But there is room for improvement. Radiation protection requirements for industrial radiography are simple and straightforward. It is the duty of present and future users to learn to follow them.

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HI-SAFF IMITATION ICE CREAM has a pleasing texture and four pleasing flavors—vanilla, chocolate, strawberry, and black walnut. It is an excellent dessert for patients who should avoid butter-fats or hydrogenated oils in their diets.

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Dr. E. A. Park, 84, Wins Goldberger Award

(Continued from Page 24)

rickets in infants. Such studies were valuable in the eventual elimination of the disease as an important health problem of infants and children in this country and Europe.

Dr. Park continued to investigate the pathology of bone in rickets and the normal processes of growth in bone. These studies aided in the understanding of the fundamental processes of bone growth.

His investigations contributed also to the knowledge of the effect of vitamin C deficiency on bone growth and structure. They permitted more effective use of x-ray in the early diagnosis of scurvy in infants by pointing out the changes in bone structure established by simultaneous tissue and x-ray studies.

"The broader influence of Dr. Park through his inspirational teaching deserves special recognition," the A.M.A. said. "His career exemplifies the sum of those qualities of important original contributions over a long period of time, of breadth of interest and influence on the field of human nutrition and of leadership which have characterized recipients of the Goldberger Award."

Born in 1877 at Gloversville, N. Y., Dr. Park graduated from Yale in 1900 and received his medical degree from Columbia in 1905. He was an instructor in internal medicine and pediatrics at Columbia and was on the faculties of Johns Hopkins and Yale. For 20 years he was a professor of pediatrics and pediatrician-in-chief at Johns Hopkins Hospital, gaining emeritus status in 1947. He has received many honorary degrees and scientific awards.

Contaminated Water Blamed In Hepatitis Outbreak

Contaminated water was blamed today as the probable cause of an epidemic of infectious hepatitis in Connecticut in the summer of 1960.

Hepatitis is a virus-caused liver disease in which jaundice is the most prominent symptom.

Thirty cases of hepatitis apparently stemmed from a well drilled in 1957 to supply water to grades three through six of the consolidated school in Brookfield, Conn., according to an article in the April 7 *Journal of the American Medical Association.*

General sanitation and hygiene in Brookfield are "excellent" the article said.

Water-borne epidemics of hepatitis have been reported infrequently, according to the *Journal* report, which said:

"It is possible that water-borne transmission occurs more often in schools in this country than the

(Continued on Page 38)

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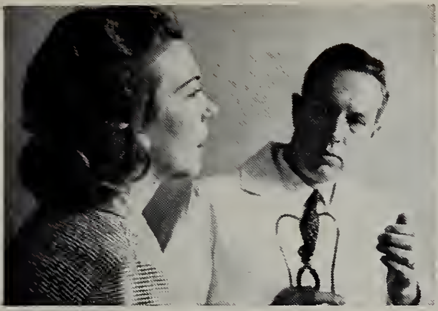

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Lanesta Gel has complete esthetic acceptance and is well tolerated.

*Gamble, C. J.: Am. Pract. & Digest Treat. *11*:852 (Oct.) 1960. See also Berberian, D. A., and Slighter, R. G.: J.A.M.A. *168*:2257 (Dec. 27) 1958; Olson, H. J.; Wolf, L.; Behne, D.; Ungerleider, J., and Tyler, E. T.: California Med. *94*:292 (May) 1961; Kaufman, S.A.: Obst. & Gynec. *15*:401 (Mar.) 1960; Warner, M.P.: J.Am. M. Women's A. *14*:412 (May) 1959.

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Contaminated Water Blamed In Hepatitis Outbreak

(Continued from Page 36)

lack of reports implies. The failure to recognize this type of spread may be due not only to a low index of suspicion and superficial investigation, but also because it is uncommon for evidence to occur which points certainly enough to water to allow its documentation as a common source."

In the Brookfield case, the explosive nature of the outbreak—19 cases in school pupils within 23 days—indicated that all were infected over a short period of time by a common source, the article said.

Possible sources which were considered but eliminated after investigation were food, milk, and intermingling on school buses and at church gatherings, it said.

Drinking water provided a logical explanation for the outbreak, it said.

Considerable weight was added to the hypothesis that the source was a particular well at the consolidated school when it was discovered that the only patient who became ill during the epidemic and who had not attended the school had nevertheless drunk water there, it said. This patient was a junior high school student who played basketball in the school gymnasium and drank water from a fountain drawing water from the well.

Authors of the article are Drs. Mila E. Rindge, chief, epidemiology section, Connecticut State Department of Health, Hartford, Conn.; James O. Mason, Communicable Disease Center, and Wm. R. Elsea, U. S. Public Health Service, Washington, D. C.

Cervical Cancer Risk Higher In Early Marriage Group

Women who marry in their teens face a higher probability of eventually developing cancer of the cervix, according to a report in the February 17 *Journal of the American Medical Association.*

It was recommended that women who fall into this susceptible group seek regular gynecologic examinations. Cancer of the cervix can be cured when diagnosed in its early stage.

The *Journal* report was based on studies conducted at Kaiser Foundation Hospitals and Permanente Medical Group in Oakland, Calif., and San Francisco in which 155 cervical cancer patients were compared with 155 similar but cancer-free patients.

The study, in which all patients were questioned as to their earliest sexual experience regardless of marital status, revealed that significantly greater number of cancer patients reported such experiences between the ages of 15 and 20 with cancer diagnosed after a mean latent period of 30 years, I. D. Rotkin, Ph.D., Oakland, said.

This relationship indicates the presence of some as yet unidentified cancer-causing agent, he said.

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Atherosclerosis

Present Status of the Management of the Disease

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THE MAN in the practice of medicine having to care for patients with atherosclerotic heart disease wants to know where we stand today in our knowledge on this subject. There are three steps in the development of knowledge. At first nothing is known about a subject and therefore all we can do is speculate. Then something new is discovered—we tend to overemphasize this discovery, argue about it and become involved in polemics and controversy. Finally, with time and discretion, the discord simmers down and what remains becomes widely accepted, without controversy, and appears in the textbooks.

This is applicable to atherosclerosis. Much is still unknown and therefore much is speculative. It is something for tomorrow, not for today, and need not concern the physician in practice. However, there are a number of things that are definitely established and not controversial. These facts need reemphasis since the field is new.

It is established that 90 per cent of all patients with cardiovascular disease succumb to atherosclerosis (and/or hypertension). Hence, over 45 per cent of all Americans die of these two diseases. This is an important disease, and hence new information about it may have a great impact on our way of living and could affect certain segments of our big industries like those dealing with foods and with drugs, for example. Also, it may lead to important changes in our living habits. These overtones make it difficult to keep a reasonable scientific and unemotional attitude toward the implication of the newer findings.

It is definitely established that atherosclerosis is a disease, and hence can be treated and prevented now or in the future. It is a metabolic disease. It is not merely old age, or senility or senescence. Actually it is primarily a disease of middle-aged men. Being a metabolic disease, it is subject to control by diet as well as by the internal regulation exerted by the central nervous system or, more likely, by the hormones.

One of the problems which is not settled is what causes atherosclerosis to localize at sites of predilection. Why does it strike primarily at certain sites? Perhaps it is a question of hydraulics resulting from the forces in the moving blood which create stresses and turbulence at the branchings and narrowings of the blood vessels. Perhaps it is due to localized infection and injury. Almost everything that enters the body goes through the blood vessels, and may concentrate within the delicate intima—thereby producing an injury, which in turn becomes a site of predilection for the fatty and fibrotic changes and their sequelae which form the multifaceted aspect of atherosclerosis. Perhaps the disease follows intravascular fibrin deposits or blood clots. Rokitansky and, more recently, Duguid have

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argued that atherosclerosis starts after intravascular platelet thrombi develop. This is not established as the primary pathogenetic lesion. We ourselves believe that the clot is a result and not a precedent of atherosclerosis.

There are two major parts to the story of atherosclerosis. One concerns the basic disease which causes the intimal atheromatous lesion, consisting of lipids, lipoproteins, polysaccharides, mucopolysaccharides and reactive fibrous proliferation and calcium deposition—this is the primary disease. The other depends upon the clinical sequelae which are secondary to the basic disease. Obviously, without the basic process there would be no sequelae.

Contrariwise, the sequelae do not always follow the basic process. Autopsy data show that 90 per cent of the young male population of the United States, let alone the middle aged, have coronary and aortic atherosclerosis anatomically. This may be true in other Western countries but it is not true in many other nations which are less advanced economically. Yet, despite this prevalence of the basic disease in our country, its clinical manifestations are relatively infrequent. The clinical disease is not as prevalent as the basic disease. In part this is due to the location of the lesions among the various vascular beds. It is when a vital organ is involved that clinical manifestations tend to be emphasized.

Clinical manifestations must be distinguished from the basic process. Coronary atherosclerosis can serve to illustrate this point. It is one of the most intensively studied. Three sequential processes lead from the basic disease to the clinical manifestations.

The first is occlusion of a coronary artery, which may be caused by narrowing of the blood vessel by the plaque, or by the swelling of the plaque due to a hemorrhage within it. It may be due to ulceration of the plaque with the escape of atheromatous material, which then travels to a narrower part of the lumen and occludes it. It may be caused by a thrombus forming when the endothelial lining over the plaque is destroyed.

Secondly, occlusion by any of these mechanisms leads to regional ischemia and necrosis. And thirdly these in turn cause dysfunction of the heart which is the basis of the clinical sequelae terminating in recovery, complete or incomplete, or death.

Not all cases of diffuse ischemic heart disease are due to atherosclerosis. Some few are due to hypertension and other vascular processes. Coronary insufficiency which leads to ischemia of the heart thus may occur with minimal degrees of atherosclerosis, especially when anemia, hypoxia and malnutritional states affect the myocardium. These, however, are much rarer occurrences. Most cases by far of ischemic heart disease have significant degrees of coronary atherosclerosis.

The clinical episodes themselves are often set off by triggers which either increase the work-load on the heart or cause the occurrence of the sequence mentioned above. However, on occasion, there may be no demonstrable trigger at all. These triggers may be emotional in part—getting excited about the unimportant things in life because of a lack of equanimity. They may be infectious in part; they may be clotting mechanism alterations in part; or they may be physical stresses in part—doing too much too often, or doing things at too rapid a pace.

When the coronary circulation is impaired there still may be plenty of blood to supply the organ adequately at rest. But when we overreact, then the blood supply to the organ may become inadequate and temporarily insufficient. Coronary insufficiency (or cerebrovascular insufficiency or vascular insufficiency of the leg) is the result. In other words, the disease has not changed but the demand has outpaced the ability of the blood supply to sustain it. Of course, the disease can get worse so that work capacity declines steadily. In the case of the constantly active heart, which cannot go into oxygen debt to any great extent, its activity must be kept closely in line with the maximum availability of its coronary blood flow. In brief, then, the sequelae may be due either to a sharp decline in its blood supply or to the fact that the rate of work of the heart is too great for its limited coronary flow.

The treatment of clinical conditions resulting from atherosclerosis, while not altogether established, is well enough known so that there is no need to discuss here such things as the management of angina pectoris, myocardial infarction, ischemia of the heart, heart failure due to coronary disease, and the like. Instead, attention will be directed primarily to the present status of the management and prevention of the basic process, atherosclerosis, and to the ways of avoiding its sequelae—as we ourselves see it. This presentation may not coincide in all respects with the views of others, for the subject is still in a state of flux, leaving room for different opinions and speculation.

In considering the long range management of the disease, the first question to be asked is: Should therapy and prophylaxis apply to everybody? Should it be applied from the cradle to the grave? Should one treat and prevent atherosclerosis before it appears clinically? Or, should therapy be applied only after a clinical attack—as it were, locking the barn door after the horse has been stolen? Actually, we believe in a middle course between these extremes. The therapy to be outlined below is not for everybody, nor should it be used only after a clinical episode. Instead it should be used for the middle aged male who has actuarially a high risk of getting ischemic heart disease. Of course, it applies also to the fewer high risk middle aged females, and to the younger people who fall into the high risk group and to those over age 65 who are high-risk patients. It is obvious that the greater the risk of having a clinical episode, the more urgent is the need for therapy—or, rather, prophylaxis.

What is meant by risk? Practicing physicians are concerned with individual patients but in physics and chemistry one deals with the average reaction of innumerable units. Physicists and chemists would be hard put to predict the fate of any one unit when conditions change. They really use statistics; and when we talk of clinical risk, we are talking about actuarial statistics—about the chance a person has, under a certain combination of conditions, of having this disease become clinically manifest. Obviously, there may be a wide variation from the prediction in an individual case, and, in fact, any one case may seemingly be contrary to the prediction. This should not trouble us because scientific knowledge, after all, is a sophisticated guess of the chance of some one thing happening, and not the certainty of its occurrence for every atom, molecule or person.

HIGH-RISK GROUPS

As far as coronary disease is concerned, we can distinguish between low-risk and high-risk persons. About one of every 15 people in the United States, male and female, between the age of 40 and 65 appears to fall in the high-risk category, and about one-eighth of all males in this age group are high-risk. This is a large group.

What is the difference between a high-risk and a low-risk subject? There are some prospective studies, particularly the one at Framingham, Massachusetts, which help to define the difference. It has been shown that over a four-year period one of every hundred low-risk subjects had a heart attack, whereas 14 of every hundred high-risk patients had an attack. This is a fourteen-fold difference. At the end of six years the rates were respectively 3.5 and 50. Projecting these figures to a period of 25 years, one would imagine the incidence of heart attacks might be at least around 6 and 84 per 100 subjects, respectively, for the low-risk and high-risk groups. It is obvious that something needs to be done in the high-risk person to reduce the possibility of his having a heart attack. And this applies to one of every eight middle-aged males. This is particularly true because somewhere between one-fourth and one-third of all patients die within the first two months after a myocardial infarction and one-fifth of the remainder are dead within five years.

What identifies a high-risk patient today? A number of things do.

First is overweight. Anybody in the United States who is some 20 or more pounds heavier than at age 25 is a high-risk patient particularly if this is due to body fat.

Second, being a middle-aged male itself increases risk.

Third, any person with hypertension, defined as having diastolic pressure over 90 mm. of mercury is high-risk.

Fourth, anybody who has a hypercholesterolemia, defined as a serum cholesterol value of over 260 mg. per 100 cc., is high risk. The normal level in our country, as in every other one, should be somewhere around 150 to 180 mg. per 100 cc. But the average level actually found is closer to 200 or 220. Over 260 mg. represents a fair dividing line for definitive hypercholesterolemia. The atherogenic index used by a few investigators in the United States is no great improvement over blood cholesterol level as a primary indicator of risk. The atherogenic index, like the cholesterol/phospholipid ratio or the α/β lipoprotein ratio, may be useful in further refinements of risk.

Fifth, the following diseases make a person high-risk: diabetes mellitus, xanthomatosis, renal disease and hypothyroidism. As we grow older, the thyroid function declines by and large, and this may be partly responsible for the increased incidence of coronary heart disease with aging.

Sixth, heredity determines risk. A history of clinical manifestations of atherosclerosis (and/or hypertension) in our parents, grandparents or other close relatives makes for high-risk. Since the clinical manifestations of atherosclerosis occur after the age of procreation has started, the disease does not eliminate itself. Someday somebody will find a factor that will change at will the genes which determine our heredity. In this way, it may be possible to do something about heredity, at least as far as our descendants are concerned.

Seventh, excess cigarette smoking makes for high-risk. Statistical evidence is clear that a person who smokes two or three packages of cigarettes a day has a greater proclivity for clinical coronary disease than the nonsmoker. It may be coincidental. But, equally, it may be a causal relationship. This relationship apparently does not apply to cigar or pipe smoking.

Eighth, the emotional characteristics of an individual—ease of building up tension or anxiety, or excessive competitiveness, and the like—may alter the risk. Such unfavorable emotional traits, particularly when combined with a type of existence which favors their development, may act either by influencing the basic disease or only as a trigger for initiating the sequelae. These relationships need further study. There is no doubt that excessive emotional peaks like peaks of physical exertion may trigger clinical episodes. An environment or attitude which favors such peaks therefore can be considered to increase risk; on the other hand, in some way not clearly established, a sedentary existence as compared with one having a moderate amount of physical activity also seems to increase risk.

Ninth, having had a clinical episode of coronary disease, of cerebrovascular disease, or of any other form of atherosclerosis increases the risk of having and eventually dying of either a recurrence or a new type of atherosclerotic episode.

WAYS TO LOWER THE RISK

Having recognized the criteria of a high-risk subject, what can we do about it? One can stop or cut down on the amount of cigarette smoking. One can cut down excessive competition. This does not imply using tranquilizers. Rather, it means the development of a proper philosophical approach to life, reducing the urge always to win out over the other fellow. One should not be so ambitious as to be constantly frustrated. One should have other satisfactions in life than work—avocations for instance. One should try to run his job, not have it run him. However, we are not advocating smugness, for not only is it boring to our friends, but we ourselves become bored. We believe in the average man, as described in "The Way of All Flesh"—that is, one who does not do too much, nor too little; one who does not go too fast nor too slow. After all it is not how fast one goes but how far.

It is quite obvious that one should be physically fit. This should prove to be of particular importance for middle-aged men in general and overweight men in particular.

There is no doubt from insurance statistics that obese men in the United States have an inordinate risk of developing coronary disease. It is, furthermore, statistically quite clear in insured populations that weight reduction cuts down this risk. Obviously, the thing to do is to keep weight down. This is something therefore that can be tried by everyone. Using a bath scale daily is a good way of checking weight. Of course, in this connection, patients should be told that fats have more than twice the calories per gram that proteins and carbohydrates have.

Our civilization is a sedentary one. We use automobiles to get almost everywhere, we sit too much, and we do not use our legs enough. And at the same time we do not cut down our caloric intake to compensate for the decreased energy expenditure. Why should we not try to be physically trim and fit? We should use our legs and our arms for what they were created for. As a matter of health insurance we should keep our body machinery in the best possible condition, so that we are better able to meet emergencies, which, after all, are inevitable. This does not mean that all of us should play football or handball or tennis, but it does mean using our streets and parks for walking and bicycling. It means getting rid of our muscular flabbiness by proper training. Now we are not talking about week-end athletes, who do little exercise during the week, and do too much in a burst of activity on a week-end, like working in the garden, shoveling snow, or the like—activities for which their otherwise sedentary life makes them unfit. We are speaking of a slow and carefully planned build-up of physical fitness.

The treatment of hypertension with hypotensive agents is useful and there is a variety of effective drugs for this purpose. There is no doubt that the higher the diastolic blood pressure is, the greater the risk of the occurrence of atherosclerotic episodes clinically. And there is convincing evidence that when blood pressure is kept low with proper hypotensive agents, the clinical incidence of atherosclerosis declines. Therefore, keeping the blood pressure down in hypertensive patients is good therapy and prophylaxis against the clinical manifestations of atherosclerosis.

The use of anticoagulants as a form of therapy for persons who have had a clinical episode has been the subject of considerable controversy. A report from Sweden by Bjerkelund, and the recent report of the British Medical Research Council, strongly suggest statistically that the long-term use of coumarins, of course with proper control and precautions, seemingly has reduced the number of clinical episodes and prolonged the length of life of persons with coronary (and cerebrovascular) disease. This is especially clear in the first year. It is, therefore, advisable to use long-term anticoagulants in carefully selected patients after they have had a clinical episode. It is not known whether the coumarins operate only by preventing blood coagulation or influence the basic process as well.

Two approaches are available for the treatment of hypercholesterolemia: diet and drugs. The dietary approach is the one we favor as more rational. It would be best, however, to first consider the pharmacological hypocholesterolemic agents, old and new. In this area there is a great burst of activity. It has promise but it is one that is far from settled.

We wonder, for example, whether it always follows that when blood cholesterol is lowered, clinical atherosclerosis and its consequences are lessened. Perhaps some of the hypocholesterolemic agents are not antiatherogenic. Thus, estrogens raise the blood cholesterol level in experiments on chickens, while the incidence of coronary atherosclerosis decreases. Yet on the whole the mean level of blood cholesterol in chickens (over a period of a month or so) is definitely related statistically to the degree of atherosclerosis.

To understand the use of a hypocholesterolemic agent one must know how it acts, and whether or not there are any unpleasant or serious side actions. Also, one should know the proper dose of the agent for this purpose.

What are these specific agents? The first group are the thyroid products. They include thyroid extracts, 1-thyroxin and a number of analogues especially triac and tetrac. Recently, d-thyroxin has been recommended. As far as we know, all these thyroid preparations operate by increasing the excretion of cholesterol in the feces. They have serious side actions, they increase energy metabolism and may cause vascular damage. The vascular damage which they produce may predispose to plaque formation even though the blood cholesterol level has been reduced by them. Nobody has yet been able to get a thyroid derivative that has its hypocholesterolemic action sufficiently devoid of this metabolic augmenting action to warrant its indiscriminate use clinically. There are some inklings that such a product may yet be found.

High-risk patients who have hypothyroidism, obvious or occult, are suitable candidates for thyroid preparations to act as hypocholesterolemic and antiatherogenic agents. In euthyroid patients we will have to wait for further evidence before recommending their use routinely.

If thyroid is valuable, surely agents that cause hypothyroidism may be detrimental. Thyroidectomy in euthyroid patients carries this risk. And so does I^{131} administration. The benefit expected from preparations like I^{131} in intractable angina pectoris, for example, must be balanced against this potential hazard.

Sex hormones are not hypocholesterolemic agents, but they do change the character of the serum lipoproteins. They lower the cholesterol-phospholipid ratio and raise the α/β lipoprotein ratio. Some years ago we found that female sex hormones not only caused roosters to lose the coronary atherosclerosis which they had developed on an atherogenic diet but also could prevent the actual development of these lesions while on this diet. This effect applies only to the coronary arteries in the chicken and not to the aorta—an important biological distinction. Why this is so is not known, but it indicates that the factors affecting coronary atherosclerosis are not entirely similar to those modifying aortic atherosclerosis.

ESTROGEN EFFECT

In man as in chickens, the incidence of coronary disease is higher in males than females. A large body of data has accumulated showing that female sex hormones make the lipoprotein pattern of a male approach that seen in the female. In 1952, we began a long-term study on estrogens on some 275 patients, for the most part men under 50 years of age who had a first myocardial infarction. The study was closed on December 31, 1959, and we have analyzed the data. Estrogen-treated patients, as compared with a matched placebo-treated group, have a greater survival rate, provided the hormone is first begun within three months after infarction. At four and five years the mortality rate is less than half that in the placebo-treated patients. Estrogen therapy should be started with small doses and then slowly increased to the desired level (about 4 to 5 mg. per day). Furthermore, recent studies by other investigators, when integrated with our own work, show that these life-prolonging effects have occurred only with natural estrogens even though other estrogenic substances change the serum lipid pattern in the same way that the natural estrogens do. The reason for this disparity is not known. This beneficial effect is especially seen in patients who have a poorer prognosis initially.

How female sex hormones work is not known. In birds they raise phospholipids out of proportion to the cholesterol rise. They have little effect on cholesterol in man but do raise phospholipids and alpha lipoproteins.

Because estrogens are feminizing, this form of therapy cannot be used widely. It should be restricted to limited groups. All high-risk women, particularly those after the natural or an artificial menopause, should get estrogen. Even before the menopause, high-risk women can be given estrogens in small doses, with proper precautions and frequent gynecological check-ups.

As for men, it should be limited to high-risk patients who have had clinical episodes and who are willing to take the side actions which accompany estrogen administration in males. We are not advocating the use of estrogens beyond these suggestions until others confirm our work.

It has been claimed that certain estrogens are weakly feminizing while still potent antiatherogenic agents. We know of no such preparation available to date. All that we have tested show a parallelism between the feminizing action and the antiatherogenic effect. The weaker the former, the weaker the latter. With such preparations, it is like giving very small doses of a more potent estrogen.

A new hypocholesterolemic agent, triparanol (MER 29) has recently been introduced. It is a sex hormone without sex effects. It inhibits the synthesis of cholesterol in the liver and other organs from its precursors. This inhibition appears to take place in the last stage of cholesterol synthesis. MER 29, therefore, causes the piling up of the cholesterol precursor, desmosterol. It is possible that desmosterol might accumulate in the atheromatous lesions instead of cholesterol. MER 29 produces pseudoalbuminuria. It may produce liver damage, although some investigators have used it for many months without any change in the liver profile. It has recently been shown to produce unwanted changes in the skin, hair and, more important, in the lenses when administered over a long period. One should also determine more carefully what effect it has on the other steroids, like the adrenocortical and sex hormones. It is obvious we need more experience with this drug before it can be considered useful routinely. This requires at least a five-year study. It is not yet to be accepted for routine use by practicing physicians. Only recently it was removed from the market by the pharmaceutic firm that makes it.

Androsterone is a male hormone that is a hypocholesterolemic agent. It has no great sex effects. Its mode of action is unknown. It is something about which we know too little to be able to suggest it for clinical use.

Brain extracts have been suggested for this purpose. They operate to decrease absorption of cholesterol from the gastrointestinal tract. Large amounts are required. They lead to gastrointestinal upsets. They may work. It would seem that the fraction responsible for action is phosphatidylserine.

Then there is sitosterol. Sitosterol also lessens intestinal absorption of cholesterol. It is effective as a hypocholesterolemic agent when given at the proper time in relation to meals. It has to be used in large amounts. It may lead to gastrointestinal upsets. It may be used as an adjuvant to dietary control. It is probably the safest of the available agents, but still needs further improvement in regard to its effectiveness upon atherosclerosis.

Another agent recently put on limited trial is MK 135. MK 135 is a high polymer of quarternary ammonium and it acts by sequestrating the fatty acids in the bowel. This seems to be an innocuous action, and it seems to have an effect on blood cholesterol. No detrimental side actions have been reported. It may turn out to be useful because it works to prevent absorption, but much more work on it is needed.

Finally, nicotinic acid has long been advocated as a hypocholesterolemic agent and it seems to work well. Large doses are required. It may give rise to symptoms at first, which subside. Very recently, liver damage after long-term use has been reported and therefore it should not be used indiscriminately.

There are still other agents that we are not going to mention either because they have not been tested long enough or are not sufficiently promising at this time.

DIETARY CONSIDERATIONS

By far the most promising approach to date in the treatment of hypercholesterolemia and, hopefully, atherosclerosis is by dietary means. In diet the most important things to consider are fat, cholesterol and calories.

But before we consider dietary constituents further, it should first be pointed out that at Michael Reese we have found—in animals at least—that not only the composition of the diet but also the mode of its consumption seems to be important. Chickens that nibble all the time, which is their natural habit, had lower blood cholesterols and less atherosclerosis than birds trained to eat two meals a day. The calories and diet taken in were the same in both groups of chickens, only their eating habits were different. Furthermore, regression of lesions was faster in nibblers than in meal eaters. If we attempt to extrapolate these data to man, perhaps we should eat small amounts frequently, without increasing our calories or fat intake, instead of three meals a day. This needs to be tested clinically.

When one modifies the diet, it is necessary, as you know, to supply certain essential materials *viz.*, trace elements, metals, certain amino acids, certain unsaturated fatty acids and vitamins. The ordinary American diet has plenty of all of these essentials, so that one has to be concerned only when one changes the diet radically or the patient has had bad food habits. Only physicians should modify a patient's diet and, if necessary, they should solicit the aid of a nutritionist in this activity.

Besides the lipids, there is evidence that dietary protein levels modify the action of an atherogenic diet. In chickens, we have shown quite clearly that a low protein level aggravates the atherogenicity of an atherogenic high-fat, high-cholesterol diet, and that a high protein level tends to make such a diet less atherogenic. Certain amino acids, like methionine, are particularly active in this regard. There are no comparable studies in man but it is possible that a high protein diet may lessen the ill effects of a high-fat diet clinically. But the story is not simple even in the chicken. While low protein in the diet aggravates the development of atherosclerosis, it has the reverse effect on the disappearance of the lesions of chickens once the atherogenic diet is stopped. These facts need to be tested in man.

CARBOHYDRATES, LIPIDS

It has recently been shown also that carbohydrates have an influence. Sucrose, refined sugar and glucose, as contrasted with the pectins in vegetables and fruits, are detrimental in that they cause a greater effect of an atherogenic diet in animals and a higher blood cholesterol in man.

However, it is the lipids which are the most important. Recently, Beveridge clearly showed that adding cholesterol to a cholesterol-free diet does raise blood cholesterol provided there is butter fat (a saturated fat) in the diet but not if a polyunsaturated fat is combined with the cholesterol. Apparently, therefore, the effect of dietary cholesterol on plasma cholesterol levels depends on the nature of the neutral fat ingested at the same time. Polyunsaturated fat in the diet prevents hypercholesterolemia even in the presence of dietary cholesterol; at the least it lowers blood cholesterol.

Dietary fats not only raise plasma cholesterol levels and are therefore considered atherogenic, but large fatty meals with consequent alimentary lipemia also seem to accelerate blood clotting and retard fibrinolysis, thus adding insult to injury.

It has been estimated that our ordinary American diet contains 40 or more per cent of the calories in the form of fat. It is our judgment that no more than 25 or 30 per cent of calories should come from fat. The rest should come from complex carbohydrates and proteins.

Fats fall into two main groups: animal fats and vegetable fats. Animal fats contain cholesterol and large amounts of saturated compared with unsaturated fatty acids. Fish oils are the chief exception to this rule in animal fats; and cocoanut oil and that in chocolate are the chief exceptions in vegetable fats. It has been estimated that it would be better to reverse the ratio of saturated to unsaturated fat in the diet from three times as much saturated as unsaturated fats to just the reverse. This is *substitution,* not *addition.* It would seem that polyunsaturated fats are the ones involved in this beneficial action. Monounsaturated fats appear to be neutral. Vegetable oils are unsaturated in their natural liquid state. One way of hardening them is by hydrogenation, which makes them more saturated. Recently, hardening of vegetable oils has been accomplished while still maintaining the proportion of polyunsaturated to saturated fats around 1.5 to 1.

What does all this mean practically? We eat too much fatty (marbled) meats; we are addicted to gravies, butter, margarines, eggs, creamy salad dressings, whipped cream, mayonnaise, ice cream and the like. These habits in high-risk patients should be corrected, difficult though it may be. The things we are advocating for these patients as far as diet is concerned, in brief, are: cut out the "empty" refined calories; cut down the total calories; reduce weight as needed; provide enough protein; cut the fat supply to 25 or 30 per cent of the caloric intake, and provide about three times as much unsaturated as saturated fats; provide vegetables and fish instead of so much animal meats; urge the use of lean instead of fat meat; urge avoidance of animal gravies and obvious fat in meat; urge employment of proteins from cereals; urge use of less butter, eggs and creamy salad dressings; encourage use of more relishes; avoid fried foods (unless fried in unsaturated fat); substitute fruits for rich creamy desserts; without increasing the calories, suggest eating more frequently.

COOKBOOKS TO FIT THE DIET

There are three good cookbooks available in the United States which are suitable simple guides for the dietary changes we have advocated: one is by Mrs. Warren and Mrs. Stead; the second is by Mrs. Mary Field; and the third is by Dr. and Mrs. Ancel Keys. These are good cookbooks that deal on a practical level with the problem of diet which we have discussed. We have used their recipes ourselves and found some exciting food items even for a real gourmet.

This dietary approach is advocated primarily for high-risk patients. It might, however, even be considered as a possible goal for our entire adult population. One would have to start early in adult life to establish these food habits since a food habit—like any other conditioning—is difficult to change. In our present state of knowledge this change might be a worthwhile way of reducing morbidity and mortality from coronary disease in our population. The dietary pattern advocated is not difficult to follow, and still leaves pleasure in eating.

We admit that the benefit of the low calorie, low fat, low animal fat diet in preventing atherosclerosis has not been completely proved scientifically, but there is sufficiently strong suggestive evidence for it in epidemiological, pathological, clinical and experimental studies. We cannot understand those of our colleagues who say, "Let us wait; the information is not good enough yet." The evidence, to our way of thinking, is highly suggestive—suggestive enough to warrant this dietary change. Agreed, there is need for more prospective studies to prove that this dietary change actually does make a difference in atherosclerosis, as it does in lowering blood cholesterol level. But its use appears promising enough and it is innocuous enough to warrant telling our high-risk patients about it and urging them to follow these simple dietary rules. Surely, if we can cut down the morbidity and mortality of coronary disease even by a few per cent, this would affect a large number of persons since the total number afflicted by ischemic heart disease is so large. It has been suggested, although not proved, that a 15 to 20 per cent reduction in the level of an elevated blood cholesterol level will reduce the incidence of myocardial infarction by 20 to 30 per cent. If true, this would mean a reduction in the total mortality in the United States of something like 100,000 persons or more per year.

While it is true that diet may not be the last word, we believe it is a good beginning for today.

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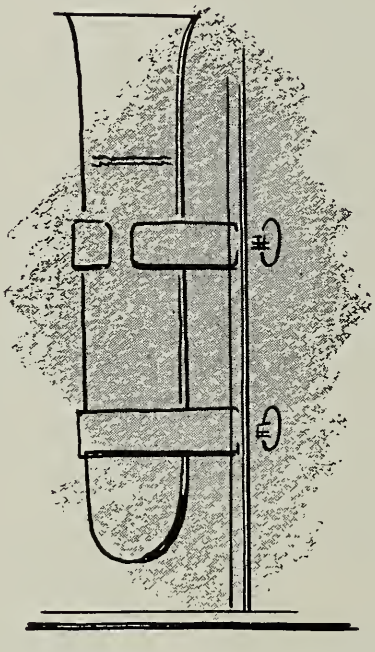
Acknowledgment—The concepts here presented are based on the work of my group at Michael Reese. I have leaned heavily on the discussions I have had with my associate, Dr. R. Pick. Some of the earlier work is summarized in two monographs we have written, namely: Katz, L. N., and Stamler, J.: Experimental Atherosclerosis, Charles C. Thomas, Springfield, Ill., 1953, and Katz, L. N., Stamler, J., and Pick, R.: Nutrition and Atherosclerosis, Lea and Febiger, Philadelphia, Pa., 1958.



Carcinoma of the Floor of the Mouth

Successful Results with Monoblock Resection and Suprahyoid Dissection in Early Lesions

RICHARD THOMAS BARTON, *M.D.*, Beverly Hills

• In 33 cases of carcinoma of the floor of the mouth, the lesions were classified according to the extent of invasion and involvement and a plan of surgical procedure was followed that fitted the operation to the classification.

A monoblock resection plan for early intraoral lesions appeared to be quite satisfactory. It was used in two cases in which node involvement was not known until discovered in the pathologic specimen, but in neither case was there recurrence in a period of six years.

APPROXIMATELY three hundred men and fifty women die annually in the United States from cancer arising on the floor of the mouth, according to the American Cancer Society. The purpose of this report is to outline some tentative concepts derived from the management of a small number of private patients who have been followed closely for five years or more after treatment.

This study does not include the multicentric lesions of the mouth which are occasionally seen and may involve the floor. That appears to be a completely different kind of disease—the entire mouth seems to "catch fire with cancer," beginning in many sites. Often the patient is found to have none of the usual contributing causes such as poor oral hygiene, excessive smoking or drinking, syphilis, or malnutrition. Microscopically the lesions are usually Grade III or IV.

In contrast, the typical patient with a solitary, primary, malignant ulcer on the floor of the mouth is middle-aged, a heavy smoker and an immoderate drinker of alcoholic beverages.[1] The lesion frequently is at or near a site of trauma from poorly fitting dental prosthesis and is low-grade histologically.

The 33 cases reported herein were all diagnosed squamous-cell carcinoma by biopsy. No attempt was made to grade the tumor other than as to its being "noninfiltrating" or "infiltrating" of the basement membrane.[2]

Anatomically, the cases were divided into five categories (Table 1). The category "noninfiltrating lesions of the floor" (Type I) includes carcinoma-in-situ and certain papillary-like carcinomas which remained superficial. Type II represents those infiltrating carcinomas limited to the floor of the mouth and without palpable nodes, whereas the third category represents an extension to surrounding areas (tongue, alveolar ridge, and anterior pillar) but still without nodal involvement clinically.

The fourth group includes those primary lesions of the floor of the mouth wherein the palpable nodes were limited to the upper (suprahyoid) level of the neck on clinical examination. In the final group (Type V) metastatic nodes were palpable in the lower half of the neck as well. This classification is a preoperative clinical one and the postoperative pathological findings may be different.

TREATMENT

In 1945 a policy was set by the author for the treatment of private patients which would follow the clinical classification described above. This was adhered to strictly during the succeeding 15 years in the hope of gaining a more accurate estimate of the value of surgical therapy.[3]

Type I lesions were treated by wide biopsy-excision and occasionally electrocauterization of surrounding leukoplakia.

A procedure was devised for Type II and III lesions—a monoblock resection of the floor of the mouth with an ipsilateral suprahyoid dissection. For midline lesions under the tip of the tongue, monoblock resection was done in conjunction with bilateral suprahyoid neck dissection (Figure 1). Among ten patients with such lesions, two were found by the pathologist to have positive nodes which were not palpable preoperatively.

Where there was an extension to the side of the tongue or on to the mandible without palpable nodes (Type III), these structures were included in part in the monoblock resection. Both patients in whom positive nodes were noted in the surgical specimen had gone over six years without recurrence at the time of this report.

Radical neck dissection and en-bloc resection of the lesion were performed in Type IV and V with minimal deformity (Figure 2) but discouraging

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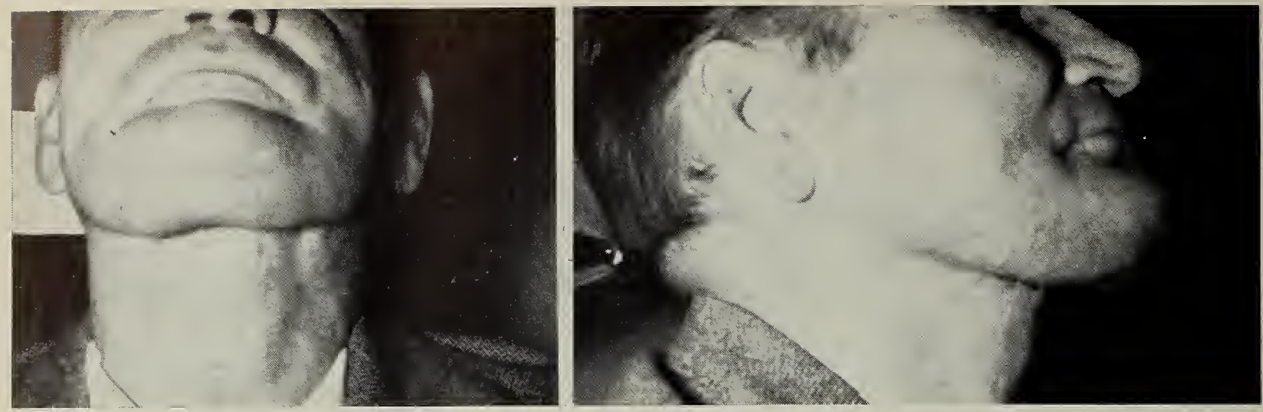

Figure 1.—Postoperative appearance of patient with midline lesion treated by bilateral monoblock resection and suprahyoid dissection. There was minimal disfiguration even with hyperextension. The lesion was Type II.

results, especially when the nodes involved were in the lower part of the neck below the bifurcation of the carotid artery or below the level of the hyoid bone.

None of the 33 patients in the series received radiation as primary therapy although patients with Type IV and V cases did receive it for palliation when the tumor recurred in the neck.

The skin incision used in the monoblock resection of the floor of the mouth and suprahyoid neck dissection follows the line of the underlying digastric muscle, starting near the midline, dropping to the level of the hyoid bone and then swinging upward again to the angle of the mandible. In patients with bilateral disease the incision extends from the angle of the mandible on one side, dropping to the level of the hyoid bone in the midline, and ascending to the angle of the mandible on the opposite side.

The resection includes the platysma, and the usual care must be taken to avoid the marginal mandibular branch of the facial nerve supplying the musculature connected with the lower lip. The boundaries of the suprahyoid dissection used in this series were: The floor of the mouth (including wide margins around the primary lesion) superiorly, the midline medially in unilateral cases, the hyoid bone inferiorly and the sternocleidomastoid muscle laterally. The lateral aspect of the tongue is later sutured to the mucosa covering the inner surface of the mandible, and provision should be made for this in the intraoral incisions.

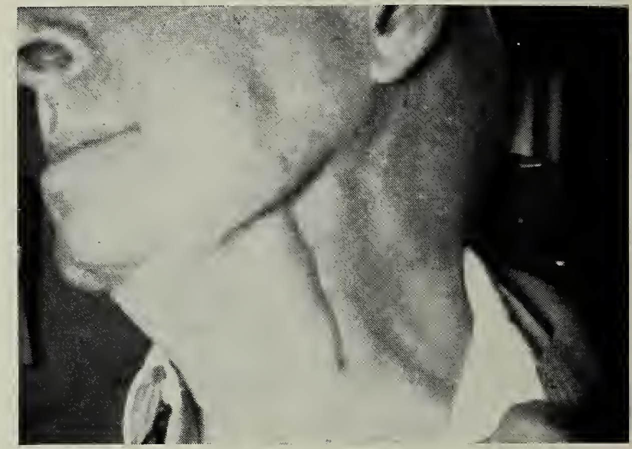

Figure 2.—Postoperative appearance of patient with Type IV lesion treated by combined monoblock resection and radical neck dissection.

Figure 3 illustrates the structures included in the monoblock resection. These are the mucosal floor of the mouth, the submaxillary gland and duct, along with its associated fascia and lymph nodes, the anterior belly of the digastric muscle, part of the mylohyoid muscle, the lingual gland and duct, the submental and submaxillary nodes, the lower tip of the parotid gland, the anterior facial vein (superficial to the submaxillary gland), the external maxillary artery (which courses through the sub-

TABLE 1.—*Division of 33 Cases of Carcinoma of the Floor of the Mouth by Clinical Type*

Clinical Type	No. of Cases	Positive Nodes in Surgical Specimen	Continuously Free
Type I—Non-infiltrating of floor only without palpable nodes	15	0	15
Type II—Infiltrating of floor only without palpable nodes	8	1	8
Type III—Extension to tongue or mandible without palpable nodes	2	1	2
Type IV—First-level palpable nodes	5	5	2
Type V—Second-level palpable nodes	3	3	0
Totals	33	10	27

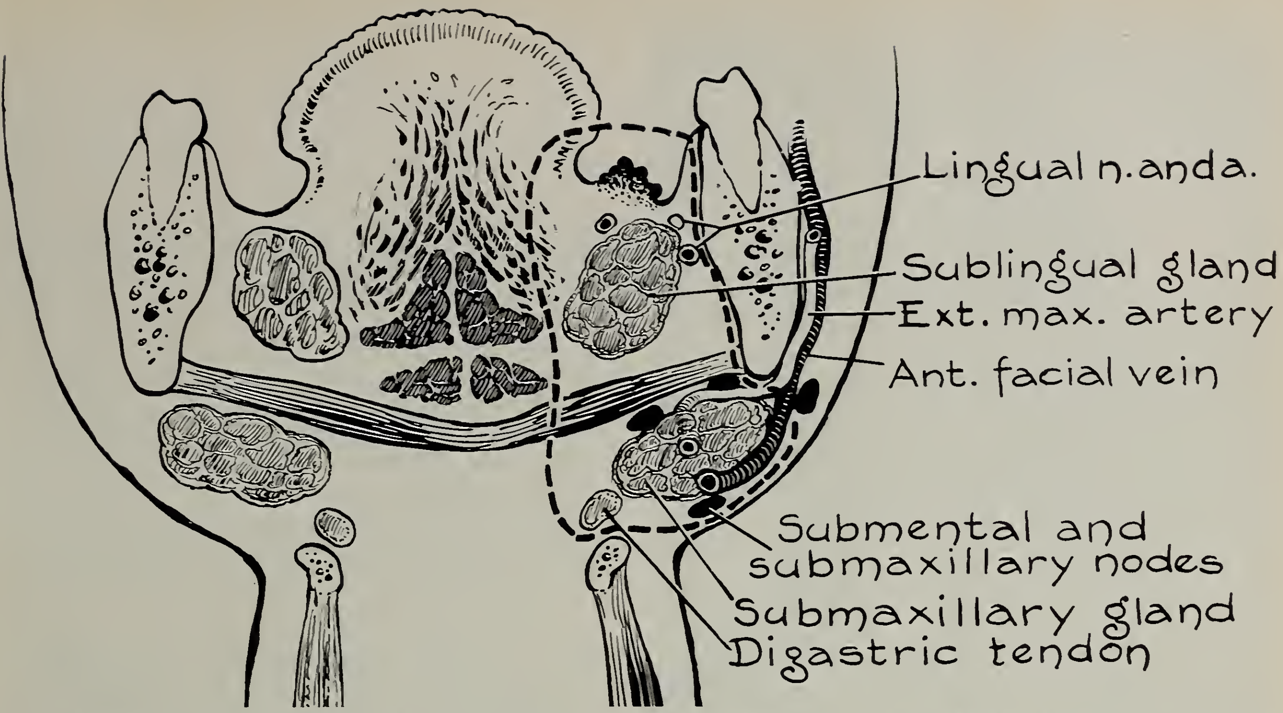

Figure 3.—Frontal section through the mandible and tongue, diagramming structures removed in the monoblock resection—the mucosal floor of the mouth, the submaxillary gland and duct, along with its associated fascia and lymph nodes, the anterior belly of the digastric muscle, part of the mylohyoid muscle, the lingual gland and duct, the submental and submaxillary nodes, the lower tip of the parotid gland, the anterior facial vein (superficial to the submaxillary gland), the external maxillary artery (which courses through the submaxillary gland) and the lingual nerve and artery.

maxillary gland) and finally the lingual nerve and artery. The submental nodes medially are small but important in the resection as they drain the more anterior part of the mouth. They should be included with the mylohyoid and anterior belly of the digastric. Posteriorly the sternocleidomastoid muscle is retracted backward and the external maxillary artery divided below the block. The stylohyoid muscle is left intact. This muscle with the posterior belly of the digastric crosses superficial to the carotid vessels and one can dissect down to them without fear of damaging vascular or neural structures. The hypoglossal nerve deep in the submaxillary triangle is not disturbed. Sacrifice of the lingual nerve leaves a numbness of the tongue, but in the immediate postoperative period this numbness has the advantage of lessening the pain experienced by the patient.

Suction drainage has been most helpful in speeding the healing. It should be emphasized again that resection of the type described is indicated in those cases where there are no palpable nodes, and therefore amounts to a "prophylactic suprahyoid neck dissection."[4]

DISCUSSION

From the statistics presented the prophylactic complete neck dissection would not seem to be called for in dealing with malignant lesions of the floor of the mouth. Had there been recurrence in the two cases in which there was involvement of nodes that was not detected before operation, a complete dissection could have been performed later.

Palmer and Martin[5] called for a vigorous and radical attack on the primary intraoral tumor "particularly where there is no evidence of cervical lymph node metastasis." The monoblock resection with suprahyoid neck dissection for "early" lesions appears to be a satisfactory procedure for this purpose. As was pointed out above, there were two instances in this study in which cervical metastasis would have been overlooked until late in the disease had mere local excision or radiation therapy been employed.

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Arterial Homografts

Long Term Observation of Results

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• In 29 consecutive cases of resection and aortic homograft replacement done between 1954 and 1958, the only surgical mortality occurred 14 days postoperatively and was due to a rupture of the implanted vessel.

Seven patients have died (after a survival time averaging 21 months postoperatively) of causes not directly related to the aortic disease or to the operation.

Twenty-one patients were still living some three to six and a half years after the implantation procedure—all of them active and showing no clinical evidence of aneurysmal dilatation.

Infant thoracic aorta was used for homograft in the femoropopliteal area in three cases. Two of the patients were still living at the time of last report, four and five years after operation, with no evidence of obstruction or dilatation. This is perhaps indicative of the superiority of this material over plastic prosthesis for this purpose.

In 1951, Dubost[4] reported the first successful use of an aortic homograft following aortic aneurysmectomy. For several years thereafter the literature was replete with additional cases in which homograft replacements were satisfactorily utilized.[7,10,11] A shortage of suitable autopsy material, some difficulty in perfecting techniques of preservation[9,12] and discouraging reports of long-term results with homografts[12,13] led to the development of synthetic prosthesis.[3,5] In the last few years the use of homografts has fallen into virtual disrepute, although the ideal prosthesis has yet to be devised.

The authors utilized arterial homografts in 29 consecutive cases of aneurysmal and occlusive disease from 1954 to 1958 and the impression that was obtained on a recent review of this small group of patients was more favorable than that given by other reports.[2,12,13] The present report is of a series of cases of arterial homografts some three to six years after operation.

MATERIAL

Twenty-nine consecutive cases of homograft implantation were done between 1954 and 1958 (Table 1). Although several of the patients were found to have both aneurysmal and occlusive disease, the primary indication for operation was aneurysm in 21 cases and occlusion in eight cases. The patients ranged in age from 37 to 82, those with aneurysm averaging 61.7 and those with occlusive disease 53.8 years. There were twice as many men as women. Twenty-six of the grafts were implanted in the aortoiliac region. In three instances infant aortas were utilized in dealing with problems at the femoral or popliteal level (Table 2).

TABLE 1.—*Data on 29 Consecutive Arterial Homografts, 1954-1958*

		Age (Years)	
	No.	Range	Average
Primary Indication:			
Aneurysm	21	37 to 82	61.7
Occlusive disease	8	38 to 59	53.8
Total	29	37 to 82	59

Surgical mortality, 1 case, 3.4 per cent.
Perforated graft, 14 days postoperative.

TABLE 2.—*Distribution of Lesions According to Location and Sex*

Location		Male	Female
Aortoiliac	26	19	7
Peripheral	3	2	1
Total	29	21	8

There was one operative death, that of a 63-year-old man who had a large aortic aneurysm associated with diffuse retroperitoneal fibrosis and bilateral ureteral obstruction. Following ureteral catheter drainage and subsidence of the uremia, surgical exploration was carried out and the anterior wall of the aneurysm was resected, the remaining portion being left to avoid damage to the ureter. The homograft was placed in the trough and otherwise anastomosed in the usual fashion. Fourteen days later the patient had sudden onset of severe abdominal pain and he died in a few hours. At autopsy a perforation was found just above the bifurcation of the homograft. It could not be determined whether there had been an intrinsic weakness in the graft, faulty ligation of a branch or erosion of the pulsating graft against the hard edge of the residual aneurysmal wall.

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TABLE 3.—*Postoperative Complications*

Morbidity	No.	Result
Wound infection	2	Recovered
Phlebitis (leg)	2	Recovered
Femoral embolus	2	Recovered (1 amputation)
Pulmonary embolus	1	Recovered
Lower nephron nephrosis	1	Recovered
Reflex ileus	1	Recovered
Intestinal obstruction	1	Recovered (after operation)

TABLE 4.—*Current Status of Patients Surviving Operation*

	No.	Months After Operation	Average Survival (Months)
Dead	7	1 to 48	21
Living	21	24 to 74	46

Eleven are gainfully employed. Two are active housewives. Seven are retired but normally active. One is an amputee, active with prosthesis.

Nine patients (32 per cent) had nonfatal complications similar to those described in the literature (Table 3). Two had superficial wound infections, incisional hernia later developing in one of them. Two patients had deep thrombophlebitis of the lower extremities, one also having a pulmonary embolus. Two patients had femoral explorations for postoperative emboli, and in one of these two ischemic changes developed that ultimately required amputation. One patient had pronounced oliguria for five days but recovered without permanent renal damage. Another had prolonged reflex ileus which responded to intestinal intubation. In still another case reoperation was necessary for relief of intestinal obstruction.

Seven patients died in the period of follow-up after operation of causes not directly related to aortic disease or homograft failure (Table 4)—three of myocardial infarction and one of congestive failure—the average survival for them having been 24 months. An 82-year-old woman tolerated the removal of a large, painful aortic aneurysm and a grafting procedure (Figure 1), but died of homologous serum hepatitis ten months later, the graft being intact (Figures 2, 3). One patient died of uremia a month following graft implantation in a lower extremity. He had a previously unknown malignant lesion in a solitary kidney. One patient died as a result of injuries incurred in an automobile accident 30 months after operation.

Twenty-one of the patients were still living at the time of this report, some three to six and a half years after operation (Table 5). In essence, 75 per cent have survived four years, in contrast to Estes'[6] report of 26 per cent four-year survival in a series of 102 patients with abdominal aneurysm who were not treated surgically. The surviving patients in the

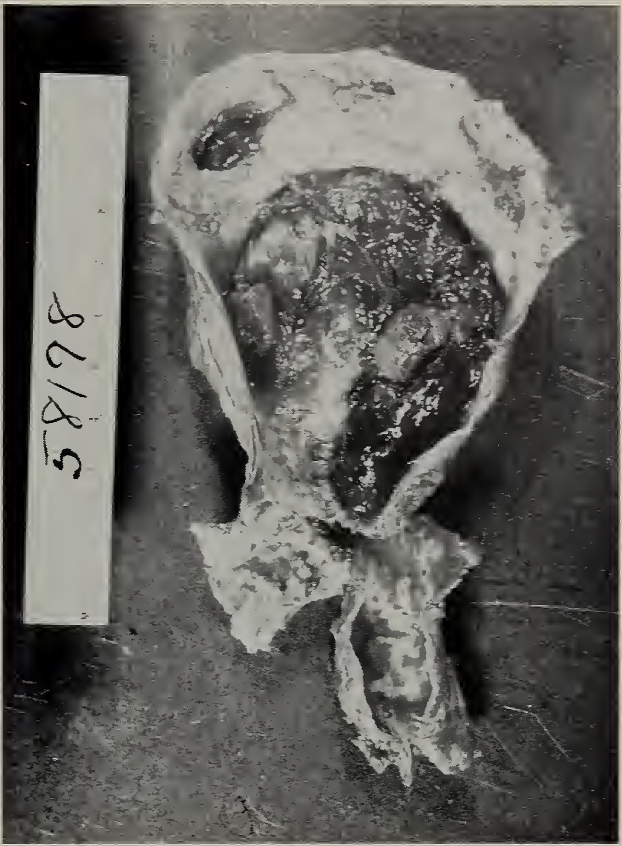

Figure 1.—Abdominal aortic aneurysm resection from 82-year-old white woman.

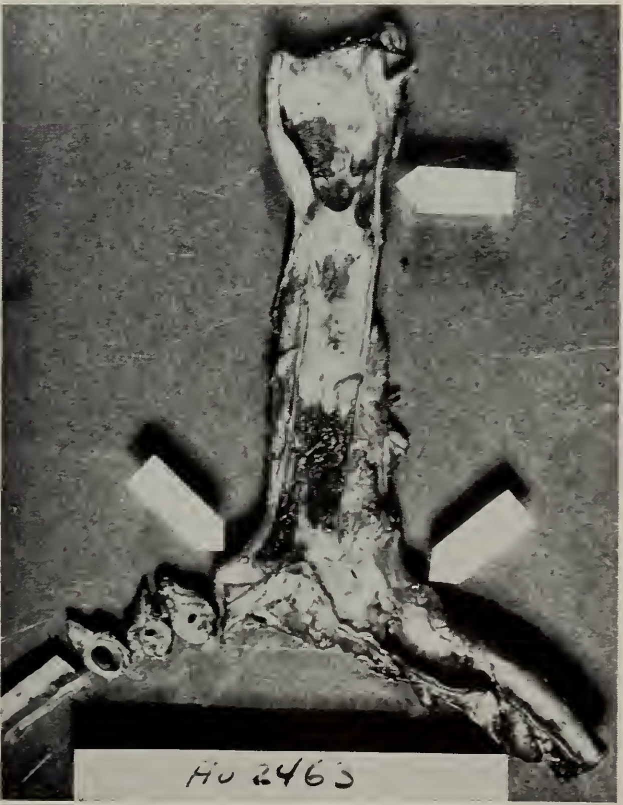

Figure 2.—Homograft and adjacent native arteries (from same patient as Figure 1) removed at autopsy ten months following implantation.

present series were active and cheerful, free of symptoms or signs of obstruction or dilatation at the site of graft. Arteriograms have not been done, but x-ray studies of the grafted area in about half of the living patients showed no evidence of calcification in the area of implantation. Eleven patients were gainfully employed and two were active housewives. Seven were retired, but were normally active. One patient, an amputee, was restricted only to the extent that the prosthetic limb restricted her.

DISCUSSION

Our interest in follow-up observation of these patients was intensified in 1957 by the report of Szilagyi[13] concerning the degenerative changes he had observed in homografts. His conclusions were that homografts of the aortoiliac region began to show significant degenerative changes on arteriography after two years. A significant number of clinical failures starting about four years after implantation intensified his concern for the fate of patients with homografts. He found that more severe degenerative changes and earlier clinical failure occurred in femoropopliteal homografts than in implantations elsewhere.

We must assume that the grafts in the cases he reported upon were taken from the extremities of the donors, for he attributed their failure to the relatively small amount of elastic tissue in these "muscular" arteries. In observing the histologic difference in host response to these muscular arteries in comparison with that seen in elastic arteries, he speculated that it might be caused by an increased antigen antibody reaction. Haimovici[8] studied homografts in dogs with induced hypercholesterolemia, observing that donor thoracic aortic homografts implanted into the abdominal aorta of such dogs were less subject to atheromatous degeneration than were homografts of vessels from a more distal source. This might well explain the variable results reported with homografts used in the extremities.

The three grafts implanted peripherally in our series were thoracic aortic homografts from infants. One of the patients died of unrelated causes too early for evaluation of the graft. The other two were living with patent grafts and were free of symptoms four and five years after operation. The prolonged patency of the grafted vessel in these two cases is impressive enough to make one wonder if it was entirely fortuitous and to speculate that homografts employing infant thoracic aorta are superior to those done with vessels of similar caliber from other sources.

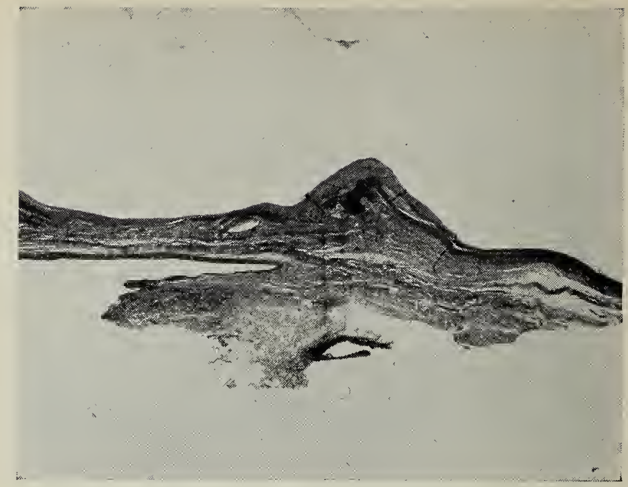

Figure 3.—Photomicrograph of homograft (left) and adjacent native artery (right) ten months after implantation, from same case as Figure 1. (Van Gieson's Stain, magnification ×450.)

We have been using synthetic grafts in the aortoiliac level with satisfaction for three years and see no reason to consider homografts for this area. Although the need for small caliber grafting material does not occur frequently, it is essential to have it available when doing endarterectomy, or when dealing with severe trauma. The tendency for small-caliber synthetic grafts to become obstructed is a problem. The results reported in the use of autogenous vein grafts are encouraging, but such material is not always available. We are planning to study this limited use of arterial homografts before the historic technique and equipment for processing the material[9] are relegated to the museum.

The excellent long term results in this series are thought to be in large part due to the pathologist's careful selection of the homograft material salvaged at autopsy and to meticulous techniques of preparation and preservation by the Artery Bank of the Los Angeles Heart Association.

ADDENDUM

After the completion of this follow-up study, one patient, a man 69 years old, died, six years after operation, of rupture of a thoracic aortic aneurysm. Another patient, a woman 52 years of age with an

TABLE 5.—*Cause of Death of Surgical Survivors*

	No.	Survival Time (Months after Operation) Range
Cardiac	4	2 to 48
Myocardial infarction	3	2 to 48
Congestive failure	1	24
Hepatic failure	1	10
Renal failure	1	1
Accidental	1	30
Total	7	1 to 48

aortoiliac homograft, had an amputation of a leg three years after grafting, for gangrene following a surgical procedure performed elsewhere for peripheral arterial obstruction.

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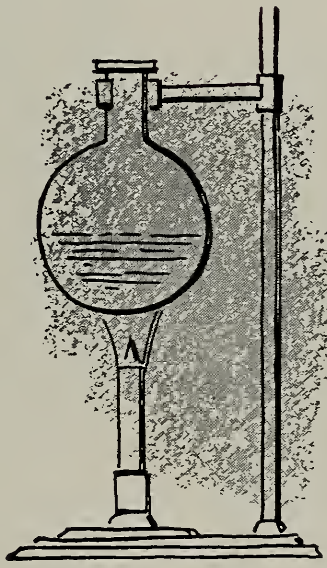

Sporadic Acute Glomerulonephritis in Adults

RALPH GOLDMAN, *M.D.*, and STEWART TUTTLE, *M.D.*, Los Angeles

• Nineteen adults who had acute glomerulonephritis were reviewed with respect to the clinical course and long-term follow-up. The age range was from 17 to 55 years. Only one patient died during the acute episode. In 11 cases, onset occurred between November and January and 15 of the patients had a known respiratory tract infection three to 30 days before the onset. The most important symptoms noted were weight gain, edema, dyspnea, oliguria and red or smoky urine. The most prominent physical signs were elevated blood pressure, edema, abnormalities in the chest and fever of over 100° F. Fifteen patients showed roentgen evidence of pulmonary vascular congestion, pleural effusion, cardiomegaly, pneumonia or a combination of these abnormalities. All the patients had proteinuria and red blood cells in the urine, and half of them had red blood cell casts. Azotemia, when present, subsided in 9.4 days. The average diastolic pressure was 105 mm. of mercury and the mean fall was 26 mm. in 23.5 days. At six months, nine of the 13 patients still being observed continued to show proteinuria or microscopic hematuria (seven showed both). A late follow-up of ten patients showed one to have significant hypertension and one to have early functional impairment and inconstant proteinuria. In these cases the average blood pressure was 140/91 mm. as compared with 119/74 mm. at the time of discharge.

Sporadic glomerulonephritis in adults presents essentially the same pattern as it does in children. Urinary abnormalities may persist for months or even years, and neither the present series nor those reported by others clearly reveal the ultimate prognosis.

NINETEEN CASES of acute glomerulonephritis were diagnosed at the Veterans Administration Center, Los Angeles, in the period January 1, 1949, to December 31, 1953. As there were nearly 60,000 admissions to the general medical and surgical service during that time, the incidence was one in 3,000.

Although in its clinically apparent form acute glomerulonephritis is a relatively rare disease of adults, there has been recognition that a significant number of cases develop in this age group. Since most of the recent discussions have been concerned with certain etiologic and experimental facets of the disease, a review of the clinical features and a survey of recent literature pertaining to acute glomerulonephritis seemed worth while. Each case was quite characteristic, and although there was no confirmation by renal biopsy, there can be little doubt as to the clinical diagnosis.

The 19 patients ranged in age from 17 to 55 years with a median of 32.5 years. Seventeen patients were Caucasians, two were Negro. There was one woman and eighteen men. Eighteen patients survived the initial acute episode. Consistent with previously reported data, 14 patients developed symptoms during the period October to March, whereas only five became ill during the period April to September. A possibly related observation was that 15 patients noted acute respiratory infections shortly before the onset of renal disease. Charts 1 and 2 show the month of onset and the latent period following respiratory infection. It will be noted that in nine of the 15 patients in whom a latent period could be calculated, it was in the range of seven to 18 days. The extreme ranges recorded were 3 to 28 days.

It is of interest that the initial diagnosis was essentially correct in 12 patients. Diagnosis of renal disease was made in another three and included subacute nephritis, chronic nephritis and toxic nephritis. Two patients were admitted with the initial diagnosis of pneumonia, one with serum sickness and one with anemia.

Table 1 shows the incidence of significant and relevant symptoms present at the time of admission. The important physical findings noted at the time of admission are shown in Table 2.

Fifteen patients showed roentgen evidence of pulmonary vascular congestion, pleural effusion, cardiomegaly, pneumonia or a combination of these abnormalities. Figure 1 shows the characteristic roentgen appearance at various times during the course of the disease in one of the patients. Pulmonary vascular congestion and pleural effusion were noted in nine patients and cardiomegaly was noted in six. Four others were reported to show evidence of pneumonia. The intensity of the pulmonary abnormalities seen in x-ray films was startling; however, in all cases there was complete resolution of these changes following subsidence of the acute episode. Electrocardiograms were made in 14 cases and were abnormal in five—a first degree A-V block in three instances and left ventricular hypertrophy in

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TABLE 1.—*Incidence of Various Symptoms at Time of Admission in 19 Patients with Acute Glomerulonephritis*

	No. Patients with Symptoms	Per Cent
Weight gain	16	84
Preceding respiratory infection	15	79
Fluid retention	15	79
Lower extremities (edema)	14	74
Face (edema)	13	68
Abdominal (ascites)	4	21
Exertional dyspnea	11	58
Oliguria	8	42
Red or smoky urine	7	37
Orthopnea	6	32
Nausea and vomiting	6	32
Fever over 100° F.	6	32
Nocturia	4	21
Hemoptysis	4	21
Headache	3	16
Backache	3	16
Epistaxis	2	11
Chest pain	2	11
Diarrhea	2	11

TABLE 2.—*Incidence of Various Physical Findings on Admission in 19 Patients with Acute Glomerulonephritis*

	Patients	Per Cent
Hypertension (blood pressure over 140/90)	16	84
Fluid retention	15	79
Lower extremities edema	14	74
Periorbital or facial edema	9	47
Ascites	2	11
Abnormal chest findings	8	42
Fever over 100° F.	7	37
Hepatomegaly	6	32
Tenderness at costovertebral angle	5	26
Tachycardia	5	26
Lymphadenopathy	4	21
Hypertensive retinal changes	3	16
Oliguria	2	11

TABLE 3.—*Laboratory Data on Admission in 19 Cases of Acute Glomerulonephritis*

Leukocytes per cu. mm.:
  Range 6,000-22,400
  Mean 11,500
Hemoglobin per 100 cc.:
  Above 12.0 gm. in 13 cases
  Below 12.0 gm. in 6 cases
Serum protein per 100 cc. (17 cases):
  Total under 6 gm. in 4 cases
  Lowest, 4.6 gm.
Albumin per 100 cc.:
  Under 3.5 gm. in 6 cases
  Lowest, 2.5 gm.
Serum cholesterol per 100 cc. (8 cases):
  Over 250 mg., 2 cases; over 300 mg., 1 case
Serum creatinine per 100 cc.:
  Under 1.5 mg., 8 cases; 1.5-2.0 mg., 6 cases
  Over 2.0 mg., 5 cases
Proteinuria:
  All cases
Hematuria:
  Qualitative sediment only:
    7 cases, all reported as "loaded"
  Addis count:
    12 cases:
      Range 3 to 1,000 million
      Median 62 million
      Mean 340 million

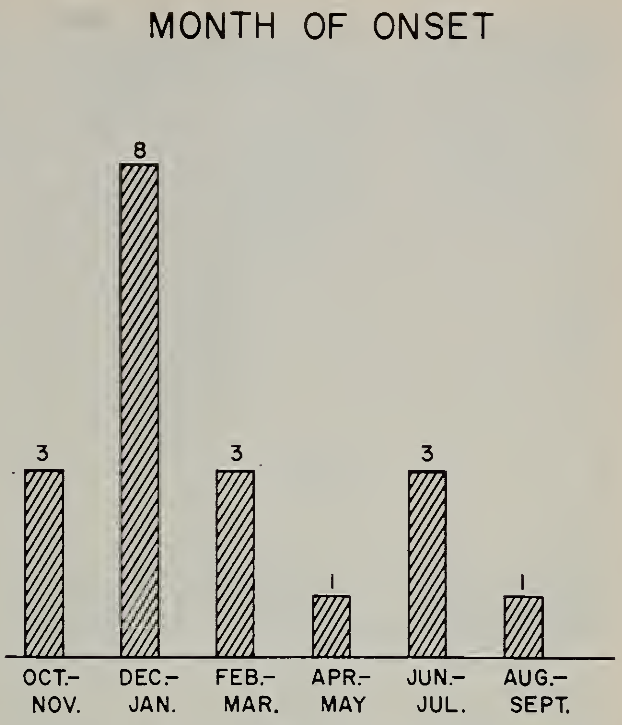

Chart 1.—Month of onset of acute glomerulonephritis.

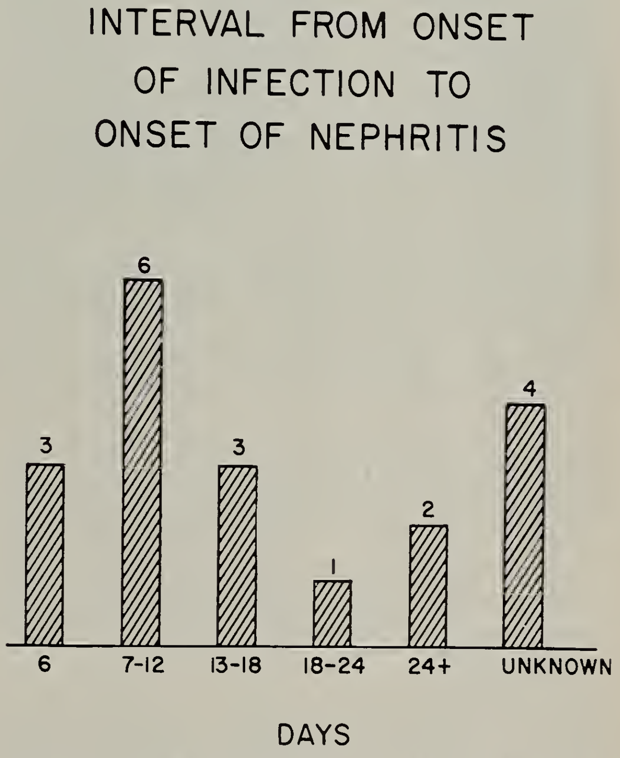

Chart 2.—The latent period from onset of precipitating infection to onset of nephritis.

two. These changes also reverted to normal upon clinical improvement.

The laboratory data on admission are summarized in Table 3. It will be noted that the serum creatinine exceeded 1.5 in 11 of the 19 patients. However, in only five did the serum creatinine exceed 2.0 mg. per

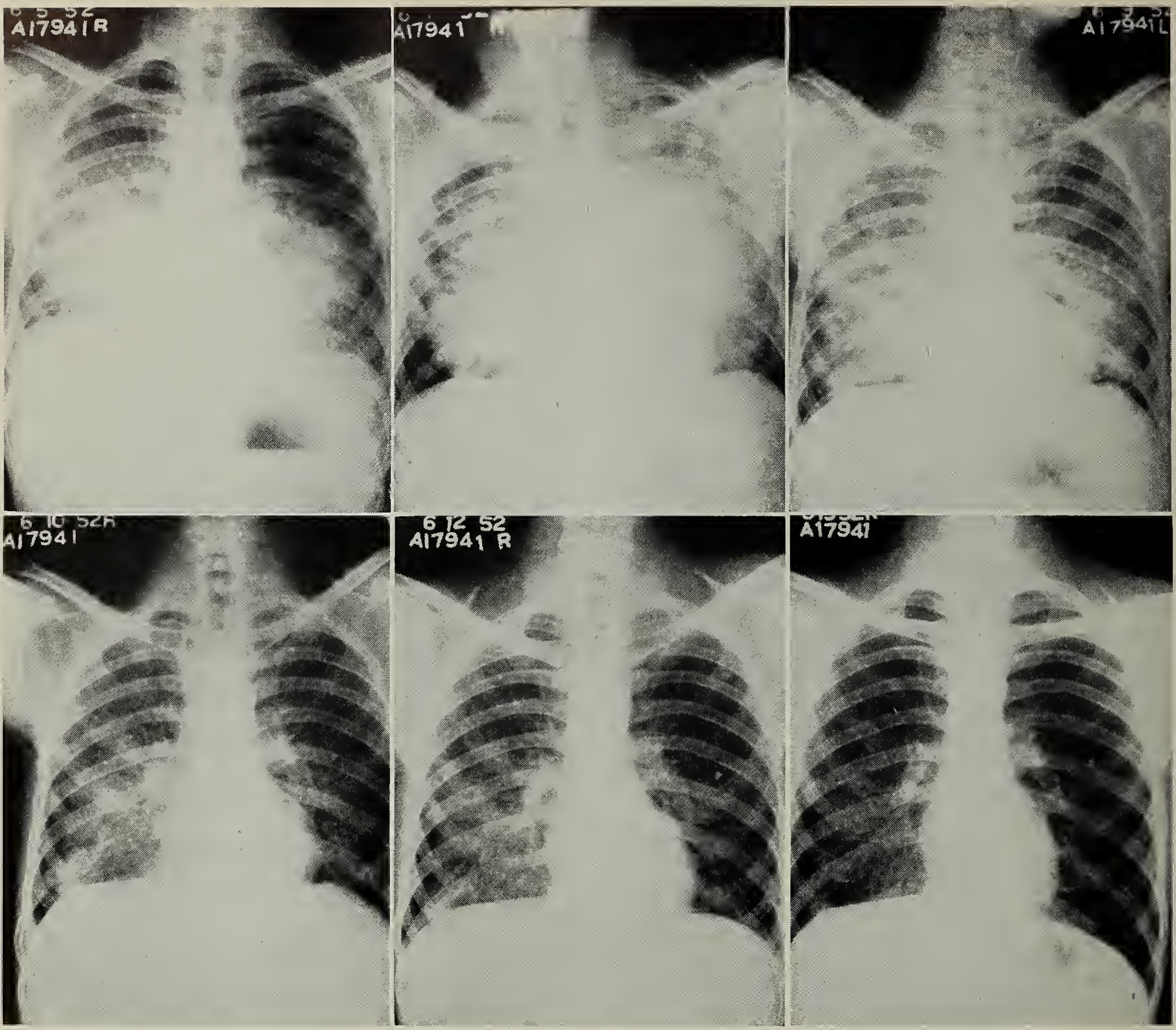

Figure 1.—Cardiac enlargement and pulmonary congestion during acute glomerulonephritis, showing the dramatic severity of the changes and the rapid resolution over a period of two weeks.

100 cc. and these maximum values were 5.2, 7.5, 10.0, 15.0 and 15.4 mg. One patient went on to fatal termination with the final serum creatinine at 36 mg. per 100 cc. In contrast to the blood findings, the urinary findings were consistently abnormal. Proteinuria was noted in all patients, as was microscopic hematuria. Red cell casts were identified in eight cases.

Only two patients were oliguric at the time of admission to hospital. Oliguria persisted for ten days in one case and continued until death in the other. Fever persisted after hospitalization in eight cases with a range of from two to ten days (Table 4). The median duration of fever was four days. In 16 cases, it was possible to determine the duration of edema by the attainment of a constant weight following diuresis. Edema persisted for four to 30 days after admission to hospital, with a median of 12 days. One patient apparently did not have edema, for he gained a small amount of weight during the time in hospital. The range of weight loss was 3.5 per cent to 20.2 per cent, and the median loss was 12.8 per cent of the body weight at time of admission. The duration of hypertension was determined by the time required to reach a stable normotensive level. Twelve cases were suitable for study, and in these the duration of hypertension ranged from four days to 45 days with a median at 25 days. Sixteen patients were admitted with blood pressure above 140/90 mm. of mercury. The highest pressure recorded was 180/130. The average diastolic pressure in all 19 patients was 105 mm. of mercury and the average decrease in diastolic pressure was 26 mm. of mercury. The duration of azotemia in seven patients ranged from one day to 21 days with a median of seven days.

In general the disease was already in its recovery phase by the time of admission to hospital, with the possible exception of the two patients with persisting oliguria. However, despite the clearing of all symptoms and blood abnormalities, urinary abnormalities persisted in most patients for varying periods. The initial period of follow-up for the surviving patients ranged from one month to 34 months, with follow-up of over six months in 13 patients. Without regard to the duration of follow-up at the time of last examination, one patient had died, two were apparently cured, nine continued to show proteinuria (six of these also had microscopic hematuria), four continued to show abnormal urinary sediment but no proteinuria, and three patients showed normal urine sediments on the last one or two examinations. The last three were considered to have an indefinite status due to the short period of remission. For the ten patients who no longer showed red blood cells in the urine, the mean time of disappearance was 7.6 months and the median time 2.5 months. For the ten patients who no longer showed proteinuria, the mean time for clearing was 3.7 months and the median time was 1.8 months. Fifteen of the 18 patients no longer showed casts, with a median time for disappearance of one month. In six cases significant number of red blood cells persisted in the urine for a longer time than detectable protein, or still persisted after the protein had disappeared. In four cases, proteinuria persisted after the red blood cells had disappeared from the urine.

An attempt was made to contact the surviving patients in 1959-1960. Replies were obtained from 11 of the 18 survivors and ten of them were reexamined, with the results as summarized in Table 5. Only one of the four patients who had had serum creatinine exceeding 5.0 mg. per 100 cc. responded to the questionnaire. However, Patient No. 3 (Table 5) whose maximum serum creatinine had been 5.2 mg. per 100 cc., was completely asymptomatic and, except for an occasional red blood cell and white blood cell in the urine, showed no evidence of persistent renal impairment. Patient No. 6 was examined in another community and it is possible that the serum creatinine as determined by the laboratory there is not comparable with our determination. A faint trace of proteinuria was reported to be present following exercise, but urine specimens taken with the patient resting were negative for protein. With this exception, proteinuria was absent in all patients an average of 88 months following acute nephritis. It is of interest that all but two patients now have borderline diastolic pressures of 90 mm. of mercury or above and that one of the two patients with a normal diastolic pressure has a systolic pressure of 140 mm. Only one patient (No. 6) has a definitely elevated serum creatinine. In only two patients was the specific gravity of the urine less than 1.020. Six of the ten patients continue to show occasional red blood cells in numbers which may be considered to be slightly above the limits of normal. One patient responded to the questionnaire, but refused to cooperate for examination. He denied any evidence of persistent disease.

TABLE 4.—*Duration of Abnormal Findings in 19 Cases of Acute Glomerulonephritis*

	No. Cases	Range (Days)	Median (Days)	Mean (Days)
Fever	8	2 to 10	4	4.9
Edema (to constant weight)	14	4 to 30	12	13.3
Hypertension (to normal level)	12	4 to 45	25	23.5
Azotemia	7	1 to 21	7	9.4

DISCUSSION

The recent revival of interest in sporadic acute glomerulonephritis in adults probably has been due to developments in the understanding of glomerulonephritis in general, as well as to the recognition that although acute glomerulonephritis is most common in the young, there is also a significant incidence in adults. For example, in Addis' series[1] 24 per cent of the patients were more than 20 years old;

TABLE 5.—*Late Follow-Up of Ten of Eighteen Surviving Patients Who Had Acute Glomerulonephritis*

			Blood					Urine				
			Pressure (Mm. Mercury)								Erythrocytes (Millions per 24 Hour)	
Case No.	Months of Follow-up	Ocular Fundi	Maximum	At Discharge	Present	Hematocrit	Serum Creatinine	Specific Gravity Last Observed	Protein at 6 Months	Protein Last Observed	At 6 Months	Now
1	107	I	150/100	120/65	120/90	52	1.15	1.019	+	—	8	4
2	93	O	175/100	120/80	140/100	52	1.10	1.021	+	—	5	0
3	87	O	170/120	120/80	135/95	52	1.20	1.034	+	—	0	2
4	94	O	190/120	130/80	150/100	50	1.15	1.024	+	—	1	2
5	78	O	155/105	115/70	140/95	47	1.10	1.032	+	—	100+	3
6*	75	II	190/100	130/85	145/95	55	2.0	1.023	—	±	3	0
7	104	O-I	160/85	100/70	135/95	48	0.88	1.028	—	—	0	0
8	76	I	160/120	130/80	175/110	46	1.10	1.024	—	—	10	4
9	86	O	150/105	110/70	130/85	50	1.28	1.013	—	—	1	Rare
10	83	O	170/100	105/65	140/70	44	0.85	1.024	+	—	45	3

*Data obtained from outside laboratory.

Ramberg's[19] included 31 per cent over age 25, and Murphy and Peters'[17] included 35 per cent over age 20. In one of the largest series, Rudebeck[22] reviewed 356 cases in patients over the age of 10 years, with the following division by decades: Second decade, 107 patients, third, 89; fourth, 71; fifth, 55; sixth, 24; seventh, 10. The oldest patient was 67 years. With these statistics, the significance of acute glomerulonephritis in adults is apparent.

The clinical picture is well defined, and typically consists of hematuria, proteinuria, hypertension and edema. There is often a history of preceding acute infection and a latent period before the onset of nephritic symptoms. In Addis' series the latent period ranged from three days to 33 days, with two-thirds between six and 18 days, which was almost identical with the present series. Usually the sex ratio is two males to each female but since the patients in the series here reported all were veterans, it is obvious that there would be an abnormal distribution in this regard. The seasonal incidence is quite consistent, and usually two-thirds to three-fourths of all cases originate between the months of October and March.

Although the typical clinical syndrome is well defined, a large number of cases are missed because the signs and symptoms are not apparent. In a report by Nesson and Robbins[18] on a series of 23 cases, presumably severe, in which autopsy was done, it was noted that acute glomerulonephritis was diagnosed antemortem in only six cases, and 11 of the patients apparently died without any clinical diagnosis of renal disease. Hutt, Pinniger and de Wardener[8] carried out biopsy of the kidney in 14 cases within 17 days of onset and found definite, but minor, changes in the epithelium of Bowman's capsule in three patients who had edema and cardiac failure without proteinuria, hematuria or hypertension. It is not clear why acute glomerulonephritis was suspected in these three, or how many similar cases may have been missed. Margolin[15] also reported two biopsy-established cases of acute glomerulonephritis without proteinuria or significant hematuria. These observations may help explain why only one case of acute glomerulonephritis was diagnosed among 3,000 admissions despite an alert and competent house staff. Yet, even with relatively typical cases, the diagnosis was made initially in only 12 of 19. It is obvious that there is a great discrepancy between the infrequency of acute glomerulonephritis and the fairly generally accepted incidence of 0.5 per cent to 1.0 per cent for chronic glomerulonephritis found at autopsy.

A review of the signs and symptoms indicates that those related to water retention were most likely to lead to hospital admission. These included weight gain, edema, dyspnea and oliguria with their concomitant physical signs. Fordham and Welt[7] recently reviewed the mechanisms of edema, hypertension and cardiac failure in acute glomerulonephritis and concluded that renal water retention, with hypervolemia, is the principal factor, although a renoprival pressor response may also be involved. There is very little evidence of actual myocardial insufficiency. This conclusion was also reached in the review by Kassirer and Schwartz.[11] Whereas in cardiac failure the cardiac output is low, the circulation time prolonged, the arteriovenous oxygen difference high and the blood volume normal to elevated, in acute glomerulonephritis the cardiac output is normal to high, the circulation time and the arteriovenous oxygen difference are normal and the blood volume is decidedly elevated. The exact mechanisms for the water and salt retention are in dispute, but opinion favors the concept that with reduced filtration at each glomerulus, and relatively normal tubular reabsorption, there is glomerulotubular imbalance with excess water retention.

It is of considerable interest that our small group of patients showed close agreement with a large group of young soldiers observed by Brod[4] during World War II. In that group the incidence of various symptoms was: edema 74 per cent, dyspnea 64 per cent, headache 48 per cent, macroscopic hematuria 39 per cent, backache 32 per cent and oliguria 20 per cent. The incidence of major physical findings was: edema 90 per cent, hypertension 86 per cent and oliguria 71 per cent. The blood pressure was only moderate, usually under 200/125 mm. of mercury, with the highest 215/130 mm. In our series the highest was 180/130 mm. Apparently the cases in our series were milder, since in Brod's series the uremia had subsided to 50 per cent in three weeks, as had the edema, while the hypertension had not fallen to normal in half of the cases for about five weeks, as compared with one, two, and three and one-half weeks, respectively, in our series. The persistence of hypertension after the subsidence of edema suggests that hypervolemia may not be the only cause

The degree of uremia is quite minimal when compared with the surprising degree of edema. Only 26 per cent of patients were observed to have more than a 50 per cent reduction in filtration rate as inferred from a serum creatinine of over 2.0 mg. per 100 cc. However, uremia and pulmonary edema are probably the two chief causes of death in acute glomerulonephritis. The only death in our series was in a patient with irreversible oliguria and uremia. It has been noted that acute glomerulonephritis is more likely to cause total anuria than are the situations associated with acute tubular damage. Complete anuria is rarely followed by recovery.[16]

Of the classical symptoms, hematuria of the extent recognized as a urinary abnormality was noted in only 37 per cent of our patients and 39 per cent of Brod's. Since both of these groups were of men, it might be expected that these patients would have the highest "incidence" of hematuria, for women and children would be less likely to observe the abnormality. This low incidence in patients with evident disease indicates that the observation of hematuria is of relatively little help in diagnosis and case finding. The actual amount of blood in the urine is quite small—of the order of 0.5 ml. or less per day. Since some of the red cells have been exposed to acid tubular filtrate, the hemoglobin is converted to acid hematin which gives the urine a characteristic smoky, coffee, or cola color.

The urinary findings usually persist longer than the clinical manifestations. Based on his large experience, Addis stated that the initial average proteinuria is 2,100 mg. per 24 hours, the average red blood cell count is 2,500 million and the average epithelial cell count is 475 million per 24 hours. These usually fall to one-fourth of the initial values at seven days, and level out at 28 days. The casts, both cellular and granular, disappear somewhat earlier. There may be some white blood cells as part of the exudative process. However, the proteinuria, and to a lesser extent the hematuria, may persist for many months, making difficult the prognosis of recovery versus the development of a latent chronic nephritis.

It seems probable that the mild anemia and hypoproteinemia are due to the dilutional effects of hypervolemia. They usually return to normal following diuresis.

Treatment of the underlying nephritic disease process has been hampered by our limited knowledge of the disease fundamentals. Certain general principles form the basis for therapy. Inasmuch as acute glomerulonephritis may present as acute renal failure, it is rational to treat the situation in the same way as one would treat acute tubular necrosis. That is, by limiting fluid intake so that there is a slight daily weight loss, by administering calories as carbohydrates and fat to slow tissue catabolism, and by treating hyperkalemia, hypocalcemia and other complications as they appear. If there is evidence of edema formation and potential pulmonary edema, it is wise to curtail sodium intake drastically, and to withhold water if the daily weight shows a continued increase, even if the urine output is adequate to prevent a significant rise in the blood urea and creatinine content. Beyond these restrictions, the argument for any particular dietary regimen has so far been inconclusive. Similarly, there seems to be a consensus that bed rest should be continued until the edema and hypertension have subsided. From this point on there is little agreement, although most observers seem to feel that further rest will give little benefit.*

Penicillin in adequate doses has been advocated in all patients with acute glomerulonephritis, and cultures of urine and of material from the throat should be obtained. Stetson and coworkers[23] show that if patients are treated during the latent period between the initial infection and the onset of nephritis, both the incidence and severity of nephritis can be reduced and the possibility that nephritogenic streptococci will be disseminated will be lessened. Various other approaches to therapy have been used with little effect. It is rather surprising, in view of the effects of the adrenal steroids, that they have not been used more in combating the possible antigen-antibody reaction of nephritis. Yet, except for a few short, inconclusive early studies, involving few patients, there have been no investigations with sufficient patients and of adequate duration.[9] Probably the uncertain, and usually favorable, outcome of acute glomerulonephritis and the absence of apparent benefit on individual trials have dissuaded further study.

Ordinarily, etiology should be discussed early in the consideration of a disease. Yet, the etiology and prognosis of acute glomerulonephritis are so closely bound that they must be discussed together. For many years it has been realized that streptococcal infection could predispose to acute glomerulonephritis. In 1952 Rammelkamp and Weaver[21] established conclusively that certain strains of beta-hemolytic streptococci, particularly group A, types 12, 4 and Red Lake, produce acute glomerulonephritis in a small proportion of infected persons. However, Rammelkamp[20] also stated that these patients usually recover. A few die in the acute stage, but none go on to chronic glomerulonephritis.

This concept is difficult to reconcile with the observation of Addis that in 24 of 118 personally observed cases of acute glomerulonephritis the disease progressed to chronicity and death. Similarly, Murphy and Peters[17] reported the development of chronic glomerulonephritis in 27 per cent of cases they observed. Of Ramberg's[19] 175 patients with acute glomerulonephritis, ten died during the acute phase, 13 were lost to follow-up, and 44 of the remaining 152 had died of uremia, had a relapse or were considered not cured. In a series of 318 patients Rudebeck[22] reported that 21 died in the acute and subacute stages, 183 recovered, 43 continued to manifest abnormalities, 52 were considered to be uncertain (most had hypertension of questionable time of onset) and 57 were lost to follow-up. Thus, in all of these series, and many more, there is documentation of progression from acute to chronic glomerulonephritis.

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*Reference Nos. 2, 4, 5, 11, 17, 22.

If Rammelkamp is correct, then there must be at least two types of acute glomerulonephritis. One, due to specific strains of streptococci, results in occasional death during the acute phase, but usually goes on to complete recovery. The other, an entirely different disease (although not clinically distinguishable) can not only follow these alternatives, but in a significant number of cases can go on to chronicity and late uremia.

Recently, Bates, Jennings and Earle[3] described an acute nephritis unrelated to group A hemolytic streptococcus infection. The disease was characterized by a short latent period, relatively low white blood cell count, absence of evidence of streptococcal infection by various serological tests, relatively benign clinical course, and minimal histologic change on biopsy. They postulated viral infection as a cause. The specificity of this entity is challenged by Kassirer and Schwartz,[11] who pointed out that many of the patients had been receiving antibiotics prophylactically before the onset and that cultures were obtained in only a few cases. In any event, these lesions were generally benign and complete recovery was the rule. Other diseases are known to produce glomerulitis, including a number of the rickettsial infections, subacute bacterial endocarditis, leptospirosis and hemorrhagic fever, to name but a few. However, in these the underlying disease process should become apparent and the nephritis subsides with the disease.

Many studies in which cases of established acute glomerulonephritis were followed to recovery or chronicity have been reported, but unfortunately these do not include conclusive proof of the initial type-specific streptococcal origin. Earle and Jennings[6] observed 36 cases in which poststreptococcal acute glomerulonephritis was proved by serial renal biopsy and the presence of type 12 antibodies. One patient died, 16 recovered, in another 16 the disease became chronic and in three it was demonstrated to be exacerbation of chronic nephritis. The group in which the disease progressed to chronicity showed a decidedly greater degree of both clinical and pathological involvement, with particular increase in evidence of glomerular damage (necrosis, lobular scars, crescent formation, adhesions and hyalinization as opposed to simple hypercellularity) and interstitial fibrosis. More recently Jennings and Earle[10] extended the follow-up period of this series and expanded the clinical and pathological data in an excellent monograph. However, it is of interest that in the reevaluation they showed that two patients died, one during the acute phase and one following an automobile accident at four and one-half months, 11 had chronic disease, and apparently 23 recovered. In other words, of the 19 surviving patients originally classed as having chronic disease or chronic with acute exacerbation, eight apparently recovered. Another excellent attempt to gather data in this regard was made by Kushner and associates.[13] They observed 21 patients who fulfilled all the current criteria for the initial acute nephritic episode. Seventeen were clinically healed, while four showed clinical evidence of chronicity. Yet, upon biopsy 11, including all four with clinical activity, showed histologic evidence of chronicity. In a series of 109 patients with chronic proteinuria in which renal biopsy was performed, Earle and Jennings[6] demonstrated serologic evidence of streptococcal infection in 29 of the 37 patients with diffuse proliferative glomerulonephritis and in five others with miscellaneous histologic changes.

Recently Kimmelstiel[12] reported distinctive nodules or bumps on the external surface of the basement membrane when viewed by electron microscopy. He speculated that these may be antigen-antibody complexes. If this is true, it should be possible to identify the immunologic stimulus and to characterize the response. This should greatly facilitate clarification of the unity or diversity of glomerulonephritis.

In the past the pathologic picture of acute glomerulonephritis was limited to the severe cases in which the patient died. Renal biopsy made it possible to study the pathologic process. The pathologic progression is now well defined, but as yet it cannot be told from the biopsy which patients will die, which recover and which have chronic disease. Although the data cited seem to demonstrate that chronic nephritis can follow acute streptococcal infection, further follow-up of these (or of similarly studied) patients will be necessary to establish this concept beyond challenge.

Lange and coworkers[14] summarized an extensive experience with serum complement determinations. The serum complement in 246 cases of acute glomerulonephritis was lower than all normals (with but one exception). A persistently low complement indicated a poor prognosis. In chronic glomerulonephritis the complement was normal, but function gradually decreased. Thus, a normal complement in chronic renal disease suggested a good immediate but a poor long-term prognosis.

The anti-streptolysin titer is recognized primarily as an indicator of previous streptococcal infection, and a rising titer indicates that the infection was recent. Early treatment of streptococcal infections with penicillin prevents a significant number of cases of glomerulonephritis and results in a lower anti-streptolysin response than in untreated cases, while administration of gamma-globulin seems to increase the number of nephritic sequelae and the level of the anti-streptolysin response.[23] Vernier and coworkers,[24] studying children, expressed belief that a rising anti-streptolysin titer in acute glomerulonephritis is invariably associated with recovery, that subacute nephritis is a different disease, histologically distinguishable, which can go on either to recovery or progression, and that chronic glomerulonephritis is never associated with an acute onset or an elevated anti-streptolysin titer. The experience with adults has not been so definitive.[6,13]

The available data suggest the following major possibilities:

First, that glomerulonephritis is one disease, and that many cases of acute glomerulonephritis are undetected, accounting for the disparity between the relatively small number of cases of acute glomerulonephritis and the number of cases of chronic glomerulonephritis. The disease is streptococcal in origin. In some patients acute glomerulonephritis has an accelerated course, and serum complement levels never return to normal. Other patients recover, but in some the disease goes on to chronicity with normal complement levels and low anti-streptolysin titers.

Second, that acute glomerulonephritis is an entity, which may proceed to a subacute or subchronic form. However, chronic glomerulonephritis is a separate disease, which may appear as acute glomerulonephritis but in actuality is only demonstrating an acute exacerbation of the chronic process.

Third, there is the possibility that both concepts of chronic glomerulonephritis may be correct—that is, that it can develop from acute glomerulonephritis but that it can also arise *de novo.*

It seems probable, regardless of the possibilities listed, that there are also nonstreptococcal acute nephritides which do not progress to chronicity. Our own inclination is to accept the first concept.

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Congenital Abnormalities

The Timing and Management of Surgical Reconstruction In Infancy and Childhood

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• The proper timing of corrective and reconstructive surgical operations for the management of congenital abnormalities in infancy and childhood is exceptionally important. Although no hard and fast rules apply, each deformity should be evaluated in the light of specific features of local and general relationship. Correlation to growth and development must be stressed as an important feature. Evaluation of the congenital abnormality in the light of its many relationships provides for a basis of better complete handling, follow-up, and ultimate result with the aim directed toward elimination of tumor threat, restoration of function and esthetic improvement.

ALTHOUGH most physicians know generally that many of the congenital abnormalities of childhood can be corrected by plastic and reconstructive surgical measures, problems having to do with the correlation of management with the proper timing of surgical correction and reconstruction are not always fully appreciated. Several important aspects of the commoner problems that confront plastic surgeons will be reviewed here to provide insight into the general plan of surgical appraisal; and some of the features of these problems will be presented by example.

Physicians trying to evaluate a defect or anomaly are broadly concerned with questions of:

- Diagnosis
- Direct effect on function and degree of anatomic distortion
- Relation to growth and development
- Possibility of secondary change or conversion to malignancy
- Methods or techniques available for management and reconstruction
- Whether to undertake correction early or wait.

The commoner problems concern lesions of two broad categories: Developmental defects and tumors of soft tissues. Under developmental defects, the incidence of cleft lip and palate deformity is 1 in 750 births. This anomaly will serve for purposes of illustrating the analysis behind the timing of surgical repair. The degree of defect can vary; it can be incomplete or complete and it can be either unilateral or bilateral. In cases of complete structural anomaly there is functional embarrassment owing to lack of continuity of orbicularis oris muscle, alveolar ridge and hard and soft palates. Functional loss is manifest by velo-pharyngeal incompetence, defective deglutition, absence of soft tissue, dynamic molding of the anterior one third of facial architecture, and—of great importance—potential loss of effective speech. To correct these abnormal features, the plastic surgeon plans to carry out structural realignment of tissue at a time when the amount of tissue is adequate and the risk of impairing further growth and development is minimal. The cleft lip deformity is best corrected shortly after birth, when the infant has regained its birth weight. In incomplete lip cleft, a delay up to three months need not have adverse effect, since the disruption of soft tissue continuity is only partial. With the use of the advanced technique of Le Mesurier and others in which measured flaps are employed and by placing atraumatic sutures and handling tissue with great care, early repair of the lip deformity can be done with good functional and cosmetic results (See Figure 1). Following the repair of the lip, growth and molding of the underlying alveolar ridge and palate will take place with narrowing of the palatal defect, which then can be surgically corrected in one or two stages between age of 18 and 24 months. This period is chosen since there will be sufficient tissue for the surgical repair and minimal chance of affecting bony growth of the mid-face. Careful detailed follow-up of the reconstructed lip and palate provide for evaluation of dentition, speech, pattern of growth, development and appearance, since at no time in early anabolic life are we facing a static situation. Minor secondary revision of the lip or nose can be considered after four years of age; and the use of a pharyngeal flap as a measure directed toward speech improvement can also be considered after evaluation of speech and velo-pharyngeal competency.

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Less common are oblique facial clefts. In the case of the patient pictured in Figure 2 there were several anomalies:

1. Oblique cleft of the face with secondary macrostomia
2. Incomplete cleft of the lip on left
3. Microtia
4. Pre-auricular appendage on left.

The lip was discontinuous at two points, so initially the cleft of the lip was repaired shortly after birth; then, after sufficient growth, the oblique facial cleft was repaired, the patient then being five and a half months old.

The reconstructive correction of ear deformities is delayed until the patient is 4 or 5 years old (the preschool period) so that development can provide for sufficient growth of rib cartilage (which is needed as an autogenous graft) and sufficient facial development to provide the soft tissue needed for ear reconstruction. This plan provides additionally for restoration of near normal symmetry to the face so that the element of dissimilarity is minimized in the school years. The small pre-auricular appendage can be removed surgically during one stage of ear reconstruction.

Among hand deformities, syndactylism can be used as an example of the use of proper timing or repair to prevent potential distortion of the digits during growth. The deformity can exist in varying degrees. Essentially, the fully developed digits are of unequal length and the epiphyseal growth (not complete in the phalanges until approximately age 16) is such that any uncorrected deformity can lead to malfunction and disfigurement. Within the first or second year of life, complete syndactylism should be corrected by web division and reconstruction, using local flaps and free full thickness skin grafts. Partial non-restricting syndactylism should also be corrected early because of the functional deficit and the potential social stigma. Figure 3 shows first the preoperative configuration of partial syndactylism involving the long and ring fingers, then the normal anatomic configuration (with normal function) that was achieved by web space reconstruction using triangular flaps and free full-thickness skin grafts.

All abnormalities of the hand must be evaluated with regard to degree of deformity, functional deficit, potential adverse effect on future growth, potential adverse social effect on family and society.

Figure 4 shows a newborn infant with supernumerary thumbs—each side presenting a different deformity. The extra right thumb, a useless segment of tissue attached by a small stalk, was surgically removed in the newborn nursery. The other thumb was a duplication with bony deformity of the phalanges. For deformity of this kind detailed bony and soft tissue reconstruction is necessary. Hence opera-

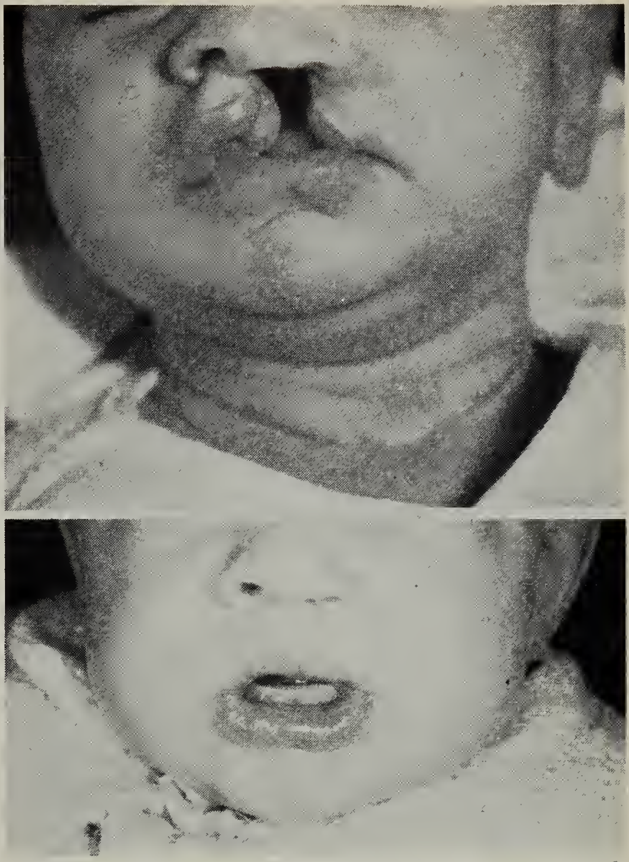

Figure 1.—Repair of lip deformity. Upper picture shows deformity at time of operation (infant 8 days old) and lower the result, the patient then 18 months of age.

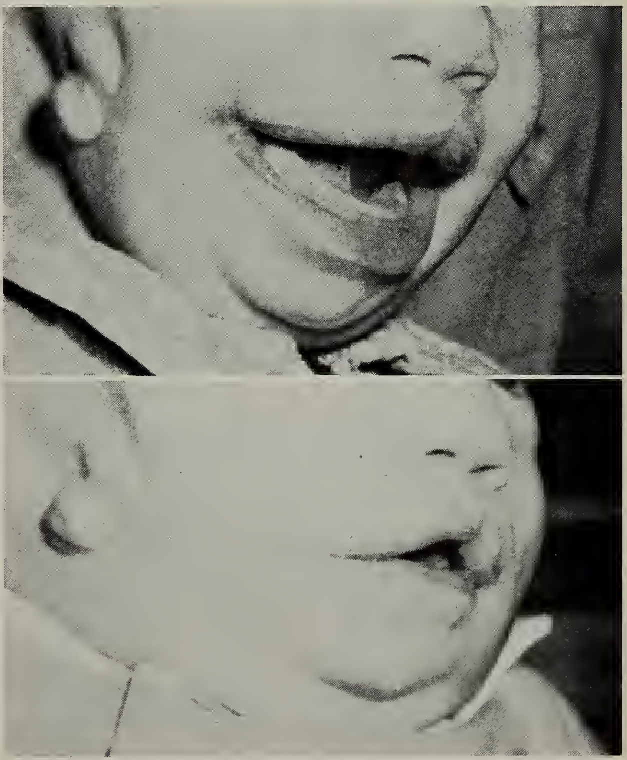

Figure 2.—Oblique facial cleft repaired when infant was five and a half months old. Reconstruction of ear to be delayed to age 4 or 5 to permit development of needed rib cartilage and soft tissue for procedure.

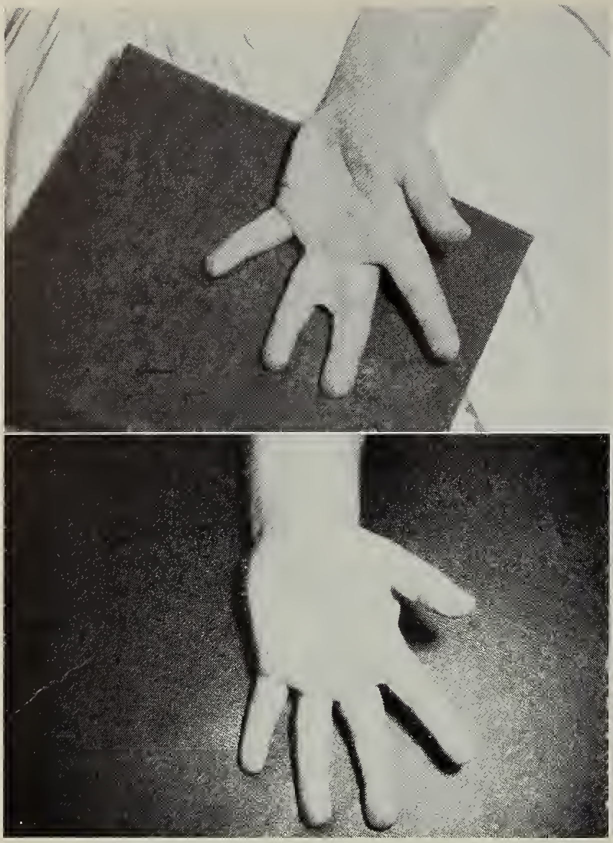

Figure 3.—The deformity above was corrected by web space reconstruction, using triangular flaps and free full-thickness skin grafts.

tion should be delayed until the child is about one year of age lest the near-normal thumb be jeopardized. Bony and soft tissue derangement must be evaluated on the conditions in each case.

Hypospadias is not a very common anomaly of the male genito-urinary tract. Surgical reconstruction of this deformity usually commences after sufficient growth has taken place to provide the tissue needed, yet before school period so that the stigma attached to sitting for urination is avoided. Surgical repair is accomplished ordinarily in two or three stages. Reconstruction of the penile urethra and elimination of the chordee, which ordinarily entails the use of some grafting technique, provides functional improvement for urination and seminal emission.

In dealing with tumors of soft tissue, questions to be considered in appraising the problems are microscopic identification, the potential effect on development, the secondary changes or the effect by proximity, and the possible social stigma. The purpose of all studies, of course, is to establish the diagnosis, outline treatment and restore normal or near-normal anatomic relationship.

Gynecomastia is a well recognized entity of this sort. Corrective efforts are aimed at eliminating ab-

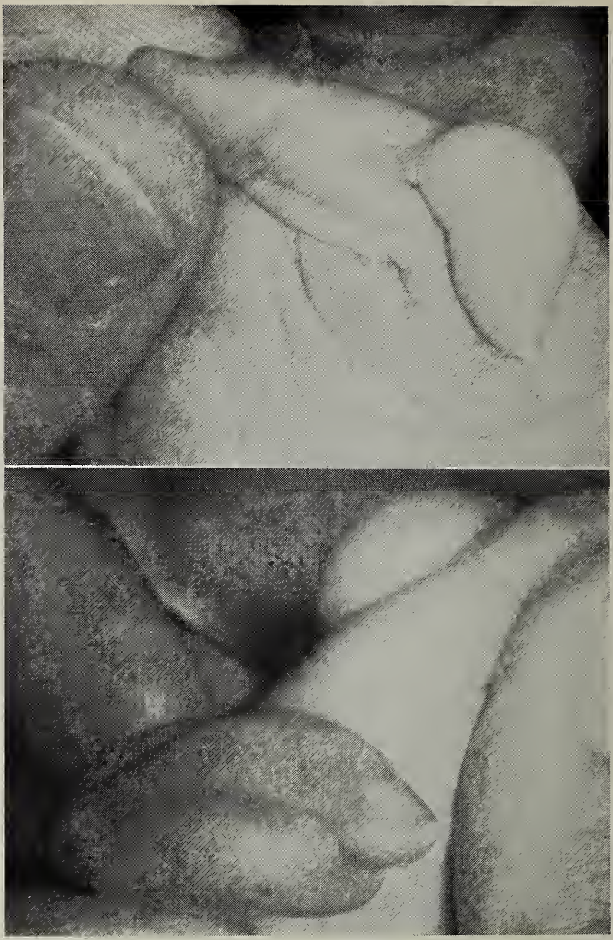

Figure 4.—*Above*, extra right thumb, attached by a small stalk, was removed in the newborn nursery. *Below*, supernumerary thumb on the left hand of the same patient. Such deformity requires detailed bony and soft tissue reconstruction and is best delayed until about a year after birth lest the operation jeopardize the near-normal thumb that is to be salvaged.

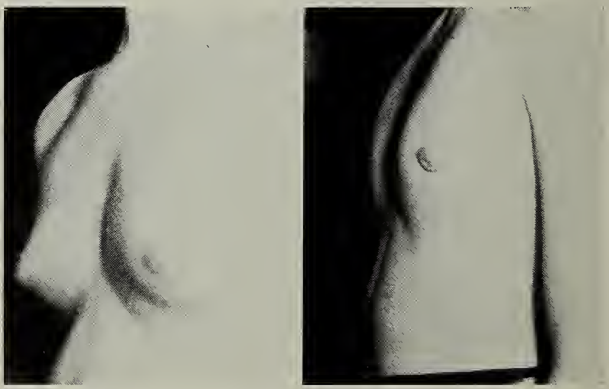

Figure 5.—Gynecomastia corrected soon after it developed, at puberty, to obviate psychic trauma.

normal breast tissue, restoring male configuration to the thorax and obviating potential psychic trauma. As soon as the deformity presents itself, at puberty, it can be corrected by properly planned excision in one stage. Figure 5 shows typical gynecomastia, unassociated with any other deformities, in a 14 year-old boy. In this case the abnormal breast tissue was removed through subareolar incisions.

In the management of hemangiomas—whether capillary, cavernous or of mixed type—careful appraisal is necessary. Most of these "strawberry" birth marks involute spontaneously, but natural involution can be hastened or the activity controlled by the judicious injection of sclerosing agents or the application of carbon dioxide snow. Roentgen therapy entails risk of destruction of growth centers, but expertly done it may be useful in some cases. Rarely is surgical intervention needed except in the case of a rapidly advancing tumor that has not responded to simpler methods. Figure 6 shows a mixed hemangioma in the entire substance of the lower eyelid. One month after a single treatment with carbon dioxide snow, there was evidence of involution and regression as manifest by graying of the surface and definite firmness of the deeper tissue. This method is consistent with preservation of the substance of the lower eyelid.

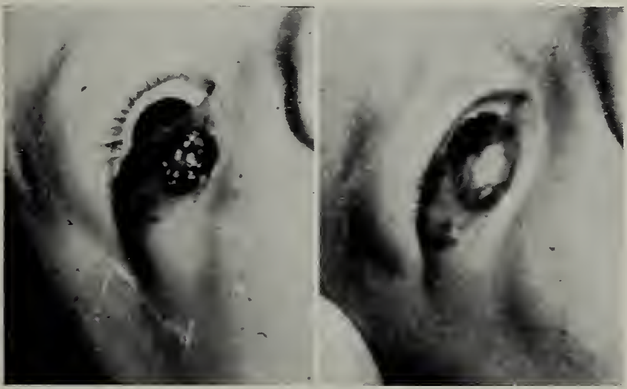

Figure 6.—*Left,* mixed hemangioma occupying entire lower lid. Right, evidence of involution a month after one treatment with carbon dioxide snow.

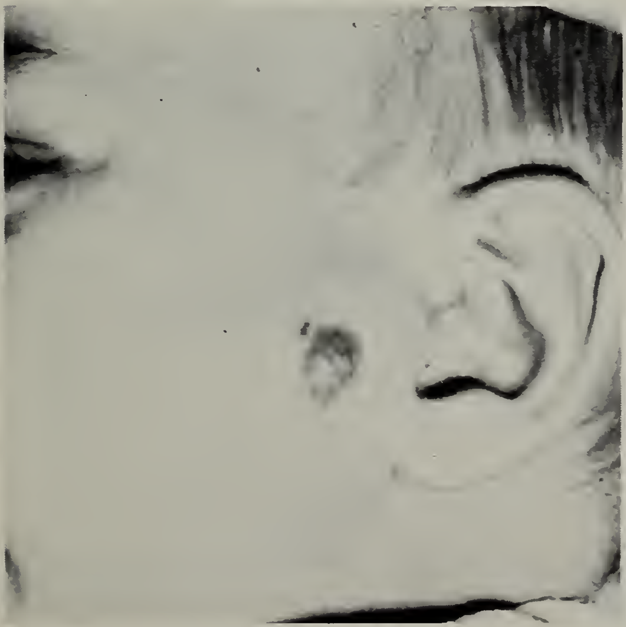

Figure 7.—Capillary-cavernous hemangioma. It was cherry red on the surface, irregularly spongy in deeper areas. After use of carbon dioxide snow the capillary component changed to gray and the deeper tumor firmed, indicating involution.

Figure 7 shows a mixed or capillary-cavernous hemangioma in the region of the parotid gland and the seventh cranial nerve. The mass was cherry red on the surface and irregularly spongy in the deeper areas. After the use of carbon dioxide snow, the capillary component changed from bright red to gray and there was firmness of the deeper tumor, indicating involution.

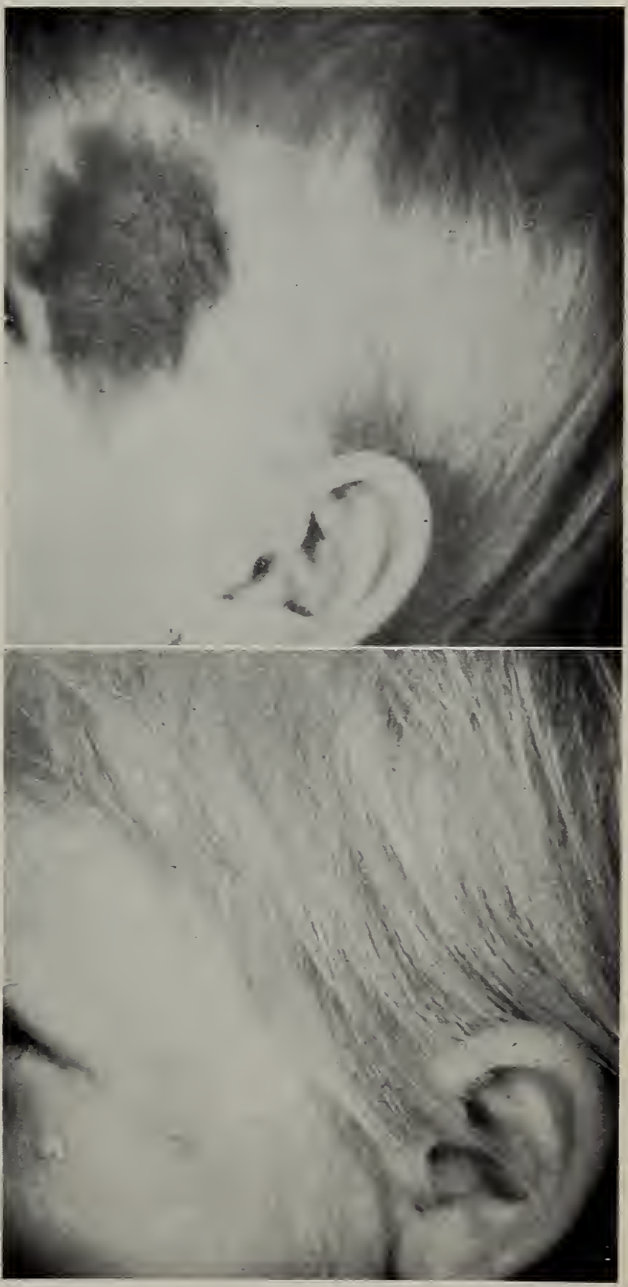

Figure 8.—A giant hairy nevus, present from birth, was surgically removed in one stage and the area covered with a free dermatome graft.

Aggressive treatment in any critical area could lead potentially to great functional and structural loss, and it is well known that conservative management in the great majority of cases offers the best results. Late in the care of hemangiomas, when all evidence of activity has disappeared, the resultant scar of remaining fibrous elements produced by involution of the deep cavernous components can be selectively dealt with by surgical excision. This reduces the cosmetic significance of lesions in the exposed areas.

Lymphangioma, on the other hand, rarely if ever undergoes spontaneous involution and, although benign, it may increase in size and produce disfigurement and changes in the adjacent tissue by expansion. The problem can be dealt with by selective surgical excision and obliteration of lymph spaces by aspiration and injection of sclerosing agents.

Pigmented nevi are commonly seen in various sizes, locations and numbers. Selected surgical correction of the larger exposed lesions is advocated both to eliminate the possibility of malignant conversion and to help cosmetically. For exposed lesions, excision in the pre-school period serves cosmetic and psychic purposes. Others should be excised before puberty to obviate the effect of hormonal change. Psychic trauma from unsightly scarring often can be prevented by judicious plastic repair.

Figure 8 shows a child who was born with a giant-type hairy nevus of the forehead. The lesion was surgically removed in one stage and the area was covered with a free dermatome graft.

Dermoid cysts, commonly seen in the eyebrow or about the nose, often warrant operation at an early age. Such cysts come about from faulty tissue fusion or isolation of a section of ectodermal elements deep within mesodermal tissue. Progressive enlargement, bone erosion and possible extension inward beyond the skull are indications for removal as well as for positive pathological identification. Presurgical evaluation should, of course, include the possibilities of glioma, neurofibroma, cephalocele, hemangioma and post-traumatic fibroma. Figure 9 illustrates a cystic, deep swelling in the right medial eyebrow area which was slightly mobile, non-compressible, discrete and did not enlarge during crying. The tumor was surgically removed, and as suspected it was observed to extend deep to the frontalis muscle, adjacent to, but without extension beyond, the periosteum of the frontal bone. Microscopic examination confirmed the clinical impression of dermoid cyst.

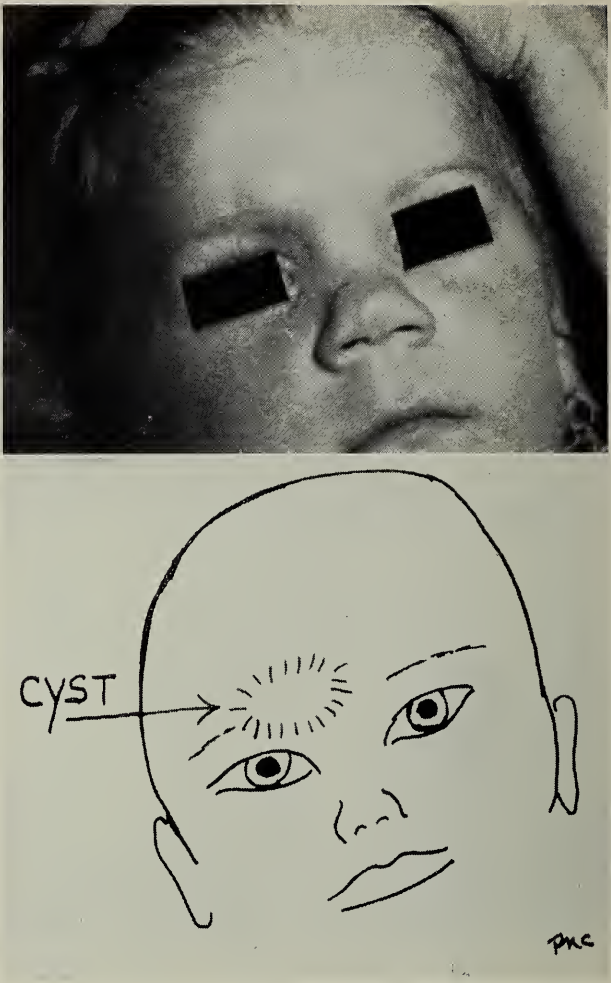

Figure 9.—Cystic swelling in left eyebrow, surgically removed.

Additional developmental anomalies such as branchial cleft cysts and thyroglossal duct cysts should be evaluated by much the same criteria as dermoid cysts.

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Surgical Repair of Undescended Testicle

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• Orchiopexy by our method has given uniformly good results. We have had no direct nor indirect hernias after this dissection. We have had no complications attributable to the complete dissection we recommend. This dissection should give an increase in spermatic cord length averaging 6.5 centimeters. If the vas deferens is completely freed, an additional 2.5 centimeters of length is gained. This increase in length is four times that obtained by the routine classical dissections confined to the inguinal canal.

All testicles absent from the scrotum should be transplanted by the sixth year. Earlier operation may be made necessary by troublesome hernia, pain, or torsion. Adequate incision, division of the floor of the inguinal canal, and retroperitoneal dissection assure good exposure. Division of the lateral spermatic ligament and elimination of the sides of the spermatic surgical triangles allow the testicle to exit from the external ring only. This will result in viable testicles in the depth of the scrotum, attached to intact blood supplies and vasa deferentia, and without tension, this giving the best chance to have normal spermatogenic testicles at puberty.

One of the authors of this communication has been particularly interested in the technique of orchiopexy for 25 years. This interest stemmed from the observation that there was a total lack of application of surgical principles based on surgical anatomy, and that in general the technique applied to the procedure was poor. In light of the bad results of the past, it is no wonder that many pediatricians still advise against treatment if one testicle descends. Yet with good surgical technique that is fitted to preservation of the vascular and ductile functions in the operative area, orchiopexy is indicated in bilateral or unilateral absence of the testis from the scrotum before puberty. The optimum time for operation usually is the fifth or sixth year of life, but in some cases it may be earlier because of a troublesome hernia, pain in the area or torsion of the testicle. Postpubertal transplantation of the testicle should be done for cosmetic reasons or in the course of hernioplasty. In adults undescended testicle that is noted only incidentally and is not associated with hernia, is best let alone.

The chance of future malignant change in an undescended testicle should not be used as a primary indication for operation. If it were, then to be consistent the surgeon should be ready to explore not only the inguinal area but the peritoneum and retroperitoneum, up to the level of the renal hilum. Such a procedure would carry greater risk to the patient from the surgical procedure alone than would the danger of future malignant disease in a testicle.

SURGICAL ANATOMY

The ultimate aim of the surgical steps in orchiopexy is to place a viable testicle in the scrotum, without tension and with a good blood supply and intact vas deferens. It should be in its normal position early enough to assure the best chance to develop active spermatogenesis at puberty.

There are six anatomic features that must be considered in carrying out the surgical procedure: (1) The frontal and sagittal spermatic surgical triangles; (2) the retroperitoneal space; (3) the lateral spermatic ligament; (4) the floor of the inguinal canal; (5) the inferior epigastric vessels; and (6) the dartos of the scrotum. Elsewhere, these anatomic points have been described and proved in detail (Figure 1).

From the frontal view, the spermatic vessels course obliquely downward and laterally from the renal area, to exit through the internal inguinal ring and then extend medially and inferiorly to the external ring. In the sagittal plane, the vessels angle anteriorly to the internal inguinal ring, and then course posteroinferiorly in the inguinal canal. The transversalis fascia envelops the vessels throughout their course. About the kidney this fascia is known as Gerota's fascia, and below the kidney it condenses to enclose the spermatic vessels and the ureter. Lateral to the spermatic vessels, it forms the lateral spermatic ligament, which attaches these vessels to the lateral abdominal wall. It is best demonstrated after separation of the spermatic vessels from the peritoneum (Figure 2).

In this manner, the normal course of the spermatic vessels decribes two triangles. Viewed from the front, the vessels encompass two sides of a tri-

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From the Department of Urology, San Diego County Hospital, San Diego 3.

Submitted November 21, 1961.

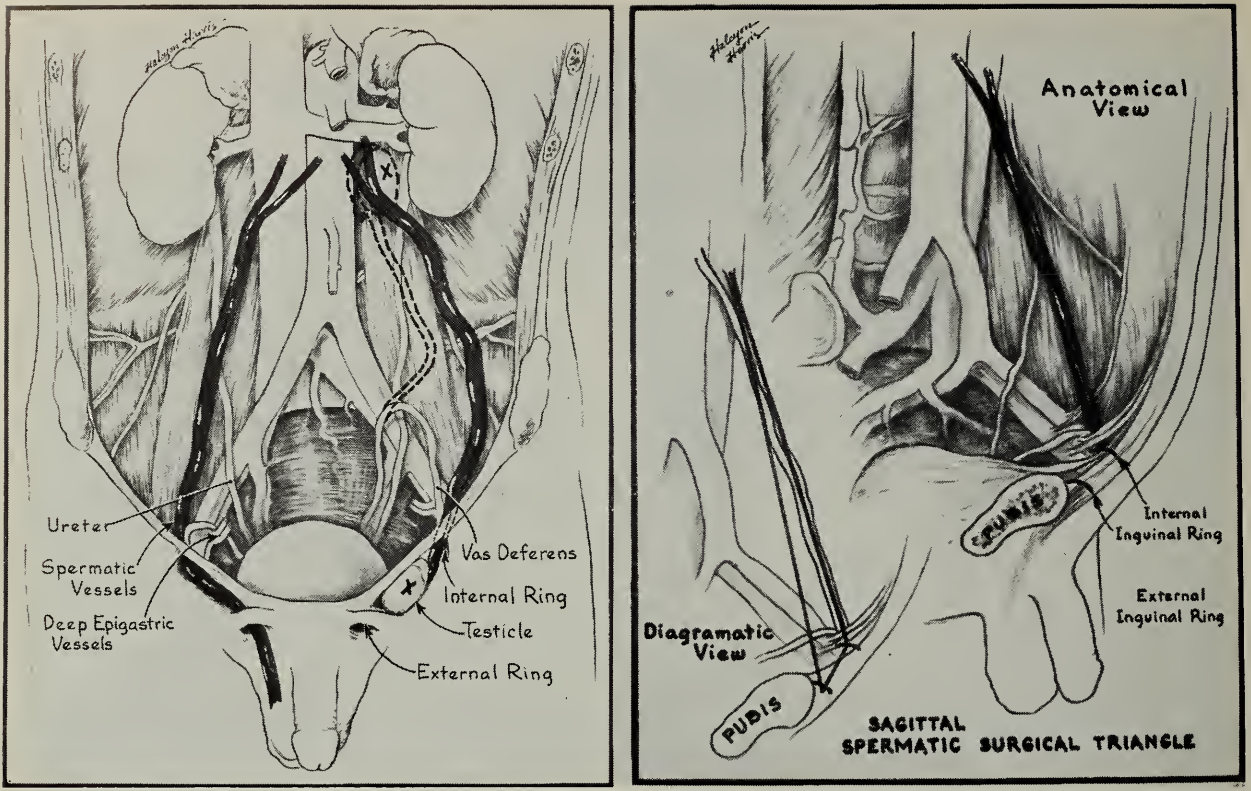
Halcyon Harris
Ureter
Spermatic Vessels
Deep Epigastric Vessels
Vas Deferens
Internal Ring
Testicle
External Ring
Halcyon Harris
Anatomical View
Internal Inguinal Ring
External Inguinal Ring
PUBIS
Diagramatic View
PUBIS
SAGITTAL SPERMATIC SURGICAL TRIANGLE

Figure 1.—*Left:* Frontal view of spermatic vessels. Left testis undescended. *Right:* Sagittal view. *Insert:* Sagittal triangle superimposed.

angle: from the point of origin to the internal ring and thence to the external ring. A line from the point of origin to the external ring describes the third side. The area encompassed by the course of the spermatic vessels is named the *frontal spermatic triangle* (Figure 3). It is obvious that elimination of the two lateral sides of this triangle will gain relative increase in length for the spermatic vessels.

In the sagittal aspect, the vessels course anteriorly from the point of origin to the internal ring, and then posteroinferiorly to the external ring. The third side extends from the origin to the external ring. The area encompassed by the course of the vessels is called the *sagittal spermatic surgical triangle.* Retroperitoneal dissection displaces these vessels posteriorly as well as medially, eliminating the indirect pathway and thus gaining in length.

Retroperitoneal dissection is necessary to bring the spermatic vessels into view and thus facilitate medial and posterior displacement. Dividing the floor of the inguinal canal and the deep epigastric vessels that it contains makes development of the retroperitoneal space easier (Figure 4). In the course of developing the space the spermatic vessels are separated from the peritoneum. This reveals the lateral spermatic ligament. Complete dissection eliminates the tortuosity of the vessels and also allows a division of the lateral spermatic ligament (Figure

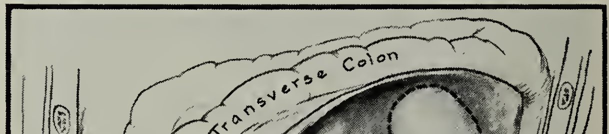
Transverse Colon
KIDNEY
Inf. Vena Cava
Aorta
Descending Sigmoid Colon
Reflected Peritoneum
Retroperitoneal Transversalis Fascia
Peritoneum
Transversalis Fascia
Spermatic Vessels
Ureter
POST.
ANT.
Peritoneum
Retroperitoneal Transversalis Fascia
Ureter
Sperm. Vessels
Halcyon Harris

Figure 2.—Frontal view of retroperitoneal space. The spermatic vessels are enveloped by transversalis fascia. *Insert:* Lateral view.

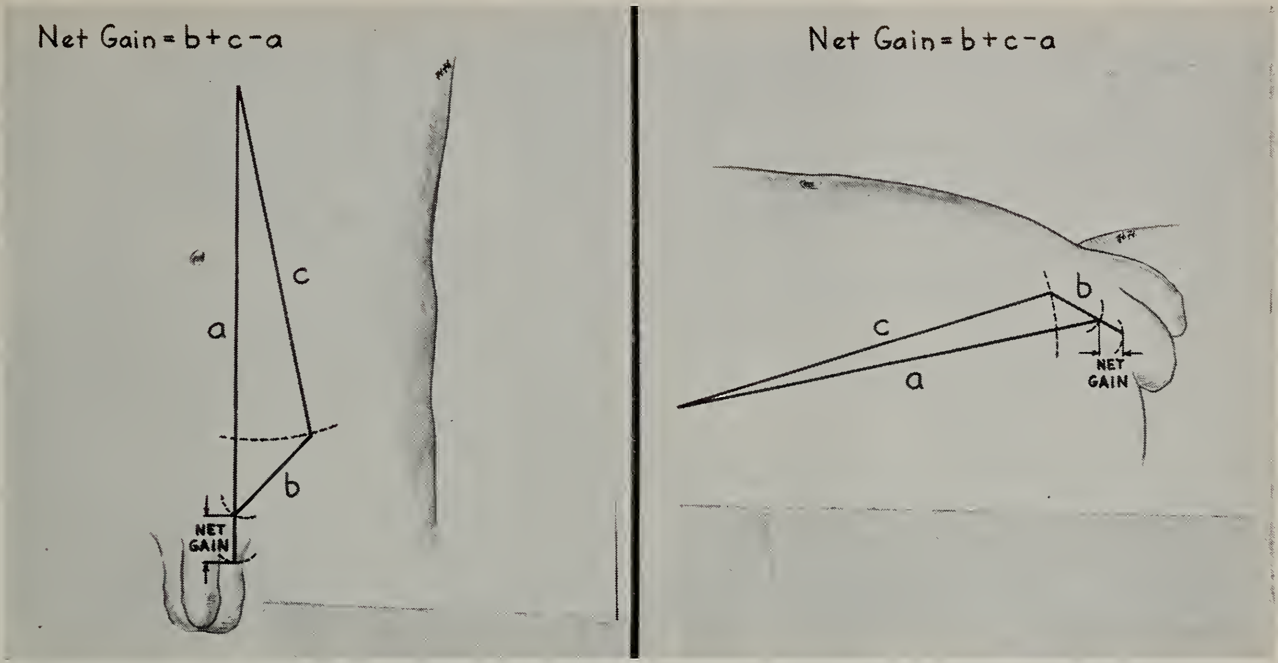
Net Gain = b+c−a
c
a
b
NET GAIN
Net Gain = b+c−a
b
c
a
NET GAIN

Figure 3.—*Left:* Course of left spermatic vessels, with frontal spermatic surgical triangle superimposed. Conversion of *b* and *c* to *a* provides gain in length. *Right:* Sagittal spermatic surgical triangle. Conversion of *b* and *c* to *a* supplies relative gain in length.

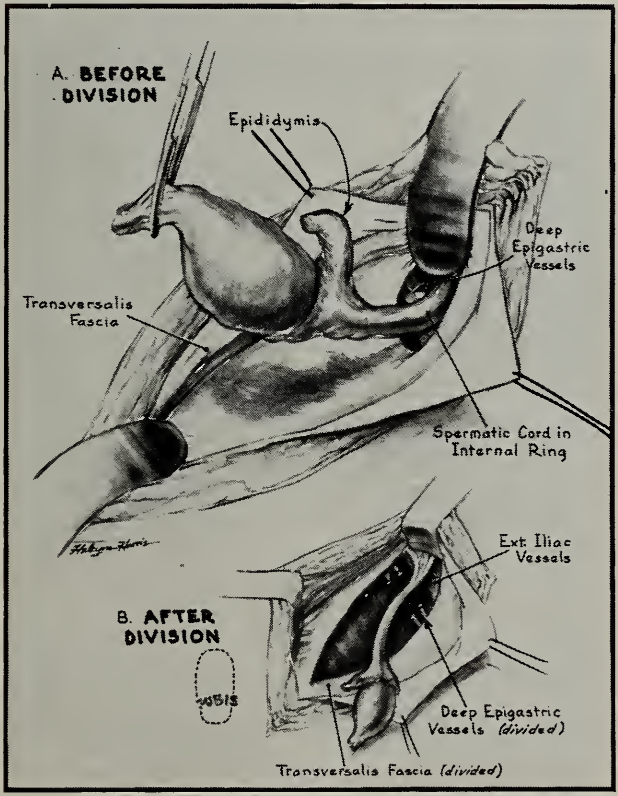
A. BEFORE DIVISION
Epididymis
Deep Epigastric Vessels
Transversalis Fascia
Spermatic Cord in Internal Ring
Ext. Iliac Vessels
B. AFTER DIVISION
PUBIS
Deep Epigastric Vessels (divided)
Transversalis Fascia (divided)

Figure 4.—Inguinal canal, showing posterior wall (transversalis fascia) and epigastric vessels before and after division.

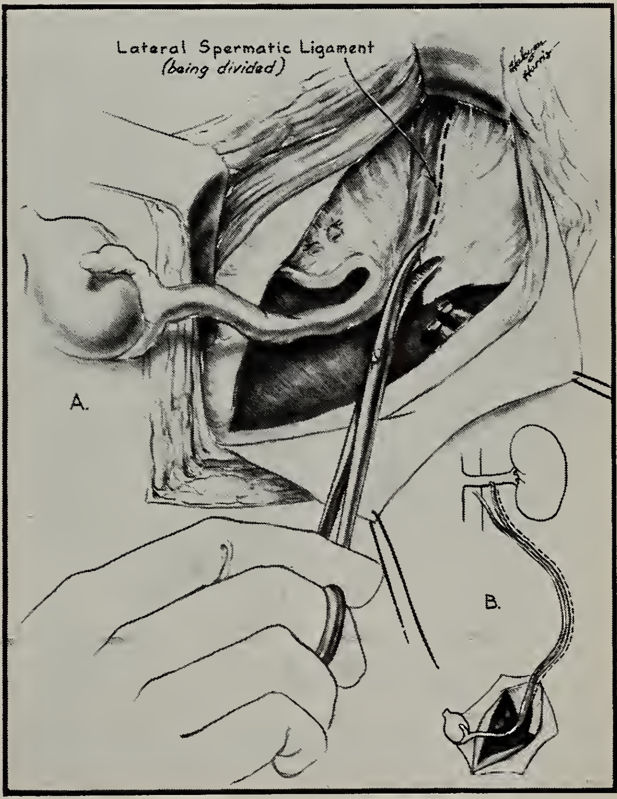
Lateral Spermatic Ligament (being divided)
A.
B.

Figure 5.—Lateral spermatic ligament being divided, allowing medial displacement of vessels. *Insert:* Incision continued to renal pedicle, if necessary.

5) and displacement of the spermatic vessels medially, permitting exit directly from the external ring. Thus, the relative increase in length of the spermatic vessels is obtained (Figure 6).

TECHNIQUE

The technical steps develop logically when these surgical anatomic principles are recognized. Adequate exposure of the spermatic vascular system is assured in this operation by a complete inguinal incision, division of the floor of the inguinal canal, and the development of space in the retroperitoneum.

The chief technical points are:

1. Skin incision from the anterior superior spine of the ilium to the entrance to the scrotum. The external oblique fascia is opened the entire length of this incision.
2. The internal oblique muscle must be divided lateral to the internal ring.
3. If the cord is found in the canal, it should be dissected free from above downward, preserving the ilioinguinal nerve.
4. The internal ring is developed, and the peritoneum is reflected from the posterior surface of the inguinal canal.
5. The transversalis fascia and inferior epigastric vessels in the floor of the inguinal canal are divided.
6. The retroperitoneal space is developed, to the kidneys if necessary.
7. The hernial sac and posterior peritoneum are separated from the spermatic vessels and vas deferens by elevation with saline solution.
8. The hernial sac is closed.
9. The lateral spermatic ligament is developed and divided, permitting medial and posterior displacement of the vessels, eliminating two sides of the surgical triangles.
10. Occasionally, the vas deferens must be dissected as far down as the seminal vesicle.
11. Division of the dartos of the scrotum eliminates contractility, increases the size of the scrotum, and allows low fixation of the testicle.
12. The testicle is placed in the scrotum through the external ring only. It is fixed by suture from the tunica albuginea through the skin and attached to a rubber band.
13. The abdominal wall is repaired in layers, eliminating the internal ring.
14. No harmful dissection is done within the cord, and thus injury to blood supply is avoided.
15. Long hemostats and long retractors of the Deaver type are a *sine qua non* in this operation.

When the procedure is completed the testicle should be in the depths of the scrotum, without tension and without injury to blood vessels. The only anatomic peculiarity that might prevent the successful carrying out of this procedure is the presence of congenitally short blood vessels, which cannot be surgically corrected (Figure 6).

OTHER METHODS

Heretofore the two techniques used most commonly were those described by Torek[2] and Bevan.[1] Neither takes advantage of the shortest-distance-between-two-points principle. Neither involves retroperitoneal dissection. The Bevan method relies on elongation of the cord chiefly through dissection within the inguinal canal and elimination of so-called "adhesions" within the cord. These "adhesions" usually include a good portion of the blood supply to the testicle. Rarely does this method give adequate length without tension, and frequently the testicle is ischemic after such dissection.

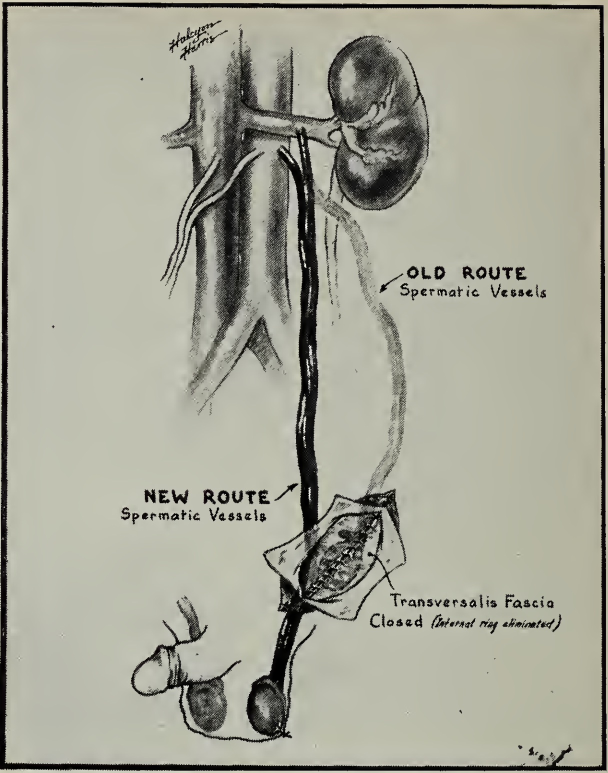

Figure 6.—New course of spermatic vessels, after retroperitoneal dissection and placement of testicle into scrotum.

The Torek method entails continuous tension on the cord, maintained by fixation of the testicle to the fascia of the thigh. It is useful, however, for increasing the size of the scrotum when this is required.

SPECIAL SITUATIONS

Unusual conditions may be present. If the testicle has never been palpated, the parents should be advised that it may be absent; that it may lie at the renal level; that it may be impossible to find; or, if found, that the vessels may be too short to permit transplantation. On the other hand, a testicle that has been palpable at one time or another can almost certainly be transplanted without difficulty. If the testicle is not found in exploration of the canal, the retroperitoneum should be explored thoroughly to the pelvic brim or above. One should look particularly for the vas deferens, since it must transverse the true pelvis regardless of the location of the testicle. If the vas is found and the testicle is not close by, it can be considered either nonexistent or hypoplastic. Occasionally, however, a testicle may be present and the vas absent. If the testicle is not found in the retroperitoneum, the peritoneum must be opened and inspected on both sides of the colon to the renal level. In no circumstances should the kidney be explored for the presence of a testicle about the pedicle.

If the testicle has not been palpated before the operation, it is wise to have a previously prepared prosthesis. We recommend polyethylene as the best substance for artificial testicle manufacture. Any machinist can lathe and polish this material to specification. If the child is very small, it is better to place the prosthetic testicle later when one of acceptable size for an adult can be used.

For a boy with only one testicle, and it impossible to lower into the scrotum, we recommend leaving it in the canal or the abdomen, since endogenous testosterone is more advantageous for the patient than is elimination of the danger of cancer later in life. If a boy has one adequate scrotal testicle and its mate is impossible to transplant, the cryptorchid should be removed, because its pressure in the canal could cause pain later, would subject it to more frequent injury, and would serve no cosmetic or spermatogenic purpose. Some surgeons, however, would leave this testicle in the canal, where it could be palpated.

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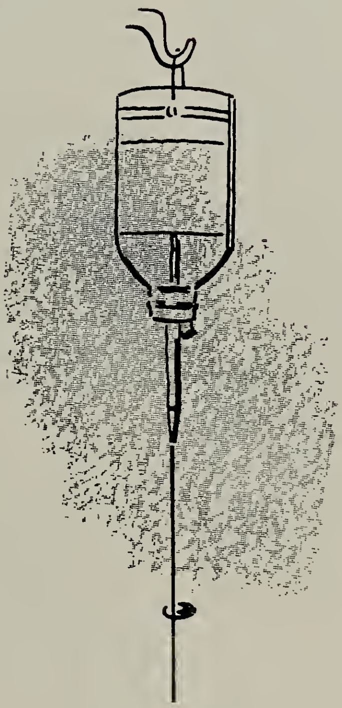

The Work Potential in Persons with Heart Disease

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• Data relevant to the decision-making processes of the professional team which comprises the Work Classification Unit of the San Diego County Heart Association were reviewed. The purpose of the unit is to assess the work potential in patients with heart disease.

Intercorrelations between a number of physical and psychosocial assessments were noted, with particular attention to the way in which the assessments correlated with the appraisal of the return-to-work potential of the patients.

Findings indicated quite clearly that the team employed other than just physical health measures in estimating work potential. Adjustment to the cardiac condition and certain estimates of the home and social environs were used to a significant degree.

THE PROBLEMS ENCOUNTERED in attempting to provide the best possible recommendations for the work load of a patient with heart disease are many and difficult to solve. Decisions regarding the physical work capacity of the patient can clearly have far-reaching implications not only with regard to the patient's life, but affecting also such things as the living standard of his family, the education of his children, the responsibilities shouldered by his spouse. Therefore careful study to permit the best decisions possible is mandatory.

Evaluations of a patient with heart disease to determine what is best for him and others are carried out by a variety of persons—the private physician, the industrial physician, the rehabilitation counselor and by the patient himself. A number of institutional programs also may be involved—departments of vocational rehabilitation, work classification units sponsored by the Heart Association, and the like.

The present communication deals with factors related to the decision-making processes of the professional team which comprises the Work Classification Unit of the San Diego County Heart Association. It is not a report of the validity of the decisions, but rather a description of the degree to which certain kinds of information and assessments were correlated with the ratings, including the work potential, that were given to patients with heart disease. Several years must elapse, during which the performance of the patient can be compared with the unit's recommendations, before the validity of the decisions can be appraised.

MATERIALS AND METHODS

The material of this report was a group of 72 men with heart disease whose cases were processed by the San Diego Work Classification Unit. Ages ranged from 18 to 67 years with a mean age of 48.

Each patient was examined or interviewed, with the work potential in mind, by the following staff members, who comprised the evaluating team: A medical social worker, a psychologist and an internist-cardiologist. Information from these members was pooled and evaluated in a team conference. At the end of each conference a set of summary impressions was made and recorded for the following reasons: (a) to stimulate the staff to take a broad perspective of the patient, (b) to aid in preparing a summary statement for the referring physician, and (c) to provide a permanent record from which in future years it will be possible to evaluate the performance of the team and the accuracy of its decisions.

These summary impression ratings were based on appraisal of the patient on the following points:

1. *Life Expectancy.* On the basis of medical information, vital statistics relevant to the particular disease state, general health factors, etc., the physicians estimated what portion of normal life expectancy it was reasonable to expect.

2. *Cardiac Reserve.* On the basis of medical examination and the cardiac history, a rating was made relative to the work capacity of normal persons.

3. *Home and Social Environments.* The report of the medical social worker was heavily relied upon to evaluate the patient's environment and to assess the degree of stress and/or support it appeared to provide in the perception of the patient.

4. *General Adjustment.* This dimension is viewed by the team as a mental health index. Probably the most important factor in the determination of this rating was the number of problems and degree of preoccupation evidenced by the patient.

5. *Adjustment to the Cardiac Condition.* This dimension reflected the psychological adjustment made by the patient in response to the disease state as he

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Submitted December 7, 1961.

TABLE 1.—*Summary of Correlations of Measurements of Various Factors Appraised by a Team in Arriving at a Return-to-Work Estimate of Patients with Heart Disease (72 Patients, Processed by Work Classification Unit, San Diego County Heart Association)*

Measurement	1	2	3	4	5	6	7	8	9
1. Life expectancy		.72†	.18	.01	.11	.49†	−.27*	.05	.06
2. Cardiac reserve			.19	.08	.27*	.59†	−.37†	.05	−.09
3. Home and social environment				.62†	.51†	.42†	.04	.02	.08
4. General adjustment					.68†	.33†	−.08	.09	.11
5. Adjustment to cardiac condition						.58†	−.06	.11	.12
6. Potential for return to work							−.33†	.19	−.06
7. Age								−.39†	.21
8. Education									−.24*
9. Duration of illness									

†Significant beyond .01. *Significant beyond .05.

perceived it to be. Objective acceptance, realistic vocational planning, emotional stability, and the like, were particularly noted.

6. *Potential for Return to Work or to Undergo Successful Rehabilitation.* Considering all the listed parameters, a rating was made indicating probable success in return-to-work ventures. Physical health, adjustment, age, existing skills, intelligence, work history and all other information known to team members contributed to this rating.

No particular weighting of these factors was agreed upon by the team. Each item was used according to its relevance in a given case.

Data on three other points were also taken into account—age, formal education and duration of cardiac disease. They are considered of interest in that they are objective measurements, in contrast with the varying degrees of objectivity noted in the foregoing six points on which the summary impressions were based.

RESULTS

All possible combinations of these ratings and data were correlated by means of the Pearson r. These values are reported in Table 1. Rating 6 correlations with all other measures are marked by column and row. This rating points most critically to the work potential of the cardiac patient and is of particular significance.

DISCUSSION

Each of the measurements as it correlates with the others will be considered in turn.

1. *Life Expectancy.* It is not surprising that there is a high correlation between this estimate and that of cardiac reserve. It may be considered to be high and to represent definition of the degree to which physical performance limits are indices of life expectancy. This measure also correlates moderately with *Potential for Return to Work.* A low but significant negative correlation is also noted to exist with *Age;* however, this is probably due to the fact that life expectancy was expressed as per cent of normal for that age.

2. *Cardiac Reserve.* A surprisingly low correlation with *Adjustment to Cardiac Condition* is noted. This suggests that acceptance of and adjustment to heart disease is not necessarily related to the severity of the disease state. A moderately high relation is found with *Potential for Return to Work,* and significant but only moderately low negative correlation with age. This suggests that, in general, the older the patient, the lower his cardiac reserve, a supposition that is generally appreciated by clinical cardiologists.

3. *Home and Social Environments.* The correlation of estimate of stress and/or support provided by the patient's environments with *General Adjustment* is, in part, to be expected, for this estimate was made with reference to how the patient perceives these factors. It does not necessarily follow that, simply because he sees them as supportive or stressful, his general psychological adjustment is implicated. This correlation is viewed with some element of surprise. Its relation with *Adjustment to Cardiac Condition* can be interpreted in a variety of ways, but in the authors' opinion it might well mean that these environments predetermine to a considerable degree the adjustment processes of a man to his disease state. This is an area in need of considerable study. The moderate correlation with *Potential for Return to Work* is again noted.

4. *General Adjustment.* Only a moderately low correlation with *Potential for Return to Work* is observed in addition to the relations of this dimension with the others as discussed above.

5. *Adjustment to Cardiac Condition.* The relation with *Potential for Return to Work* is quite strong and is to be emphasized. Next to *Cardiac Reserve,* no other measure correlated as highly with the estimate of work potential.

6. *Potential for Return to Work.* As indicated above, all of the preceding variables correlate significantly with this parameter, and emphasis is placed on the low order negative correlation with *Age.* That this low negative correlation exists highlights this unit's view that even though a man is advanced in years, he still has a vocational contribution which can be utilized if he is given proper placement.

7. *Age.* Only three significant correlations have been noted with the above measures, and all of these have been negative. Another moderately low negative correlation is demonstrated with *Education.* This probably reflects the increased educational opportunities for the youth of recent decades.

8. *Education.* This variable is not significantly correlated with the *Return to Work Potential* of the cardiac patient. Education as defined for this study was in months of formal education and did not include skills acquired by job training in industry. Accordingly, it should not be concluded that education and skills are of no value in returning a man to work.

9. *Duration of Illness.* Only one significant correlation of a very low and negative order is found. This correlation is with *Education* and is not clearly understood; it may well be the product of chance.

A review of these findings brings to the foreground several important facts. It is clear that the team employed other than sheer physical health measures in their formulation of return-to-work ratings. Estimates of the home and social environs of the cardiac along with his general and cardiac adjustments were coupled with the medical estimates in formulating assessments of work potential. It should also be noted that Table 1 reveals several low and nonsignificant correlations between pairs of summary impressions. For example, the correlation between ratings of life expectancy and general adjustment was essentially zero. Cardiac adjustment is similarly noted for its lack of relation to life expectancy. Further, the apparent disregard for age and duration of illness as predictors of work potential are somewhat surprising.

If there is a single generalization to be defended in this presentation, it is that assessments of a psychosocial nature might well be concentrated upon for future efforts in valid rehabilitation efforts for persons with heart disease. Toward this end a psychological test called the Cardiac Attribute Scale is currently under evaluation by the San Diego Work Classification Unit. Its potential value is indicated in its correlation of 0.47 with *Potential for Return to Work* and 0.48 with *Adjustment to Cardiac Condition.* At the time the summary impressions were recorded, the members of the team had no previous knowledge of the patient's performance on this scale. Accordingly, we believe that the Cardiac Attribute Scale may hold additional promise in the evaluation of persons processed by Cardiac in Industry Units.

A person with cardiac disease is something besides just a damaged heart. He is an individual with a way of life which his disease state pervades and with which it interacts. Both physical and psychological factors must be clearly understood in the total care of a patient with heart disease.

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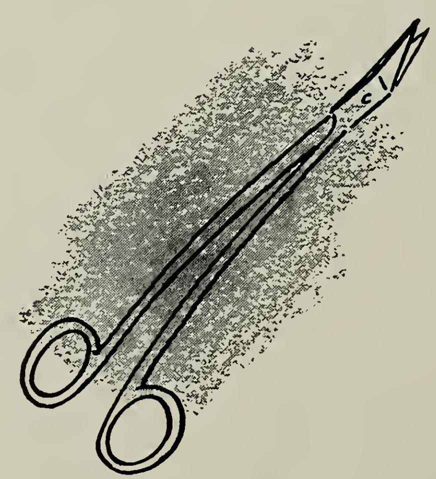

Patients with Multiple Injuries

Management in Office Practice

LEONARD MARMOR, *M.D.*, Los Angeles

• In the emergency treatment of a patient with multiple severe injuries who is brought to a physician's office from the scene of an accident, the physician must make sure that a way for air to reach the lungs is open, must treat or prevent shock, stop hemorrhage and apply temporary splints to fractures of the extremity.

The possibility that the tip of the tongue is blocking the pharynx and that blood or other fluid is clogging the airway must be considered. Fluids should be administered intravenously to prevent shock and gauze pads should be held firmly in place to control bleeding.

ALMOST EVERY PHYSICIAN has had or sometime will have the problem of treating a severely injured patient who appears suddenly as the result of an accident which has occurred near his office. The situation is a hazardous one which must be handled expeditiously.

With the development of specialization in medicine, it is becoming more and more difficult for one physician to have all the knowledge necessary for the best treatment of a patient with multiple injuries.

It was estimated that in the year 1958 there were 9,500,000 accidental injuries and 95,000 deaths from them. It is probable that rapid, skillful medical attention could save some of those who die.

Since most accidents that cause multiple injuries are caused by automobiles, it would be of value to review some statistics on these accidents. Kulowski, in reviewing the deaths following automobile accidents, described three categories:[1]

Immediate death (died at accident)	10 per cent
Intermediate (up to 48 hours after injury)	66 per cent
Delayed (after 48 hours)	24 per cent

It is patients in the intermediate group who are likely to be taken to a physician's office and who may be saved by rapid and adequate care. The primary cause of death among those who died within 48 hours was traumatic shock, and the associated injury was most often chest injury. The high mortality rate in this intermediate time emphasizes the need for improved emergency treatment.

In the group in which death did not occur within 48 hours, the cause of death was intrathoracic, intracranial or abdominal injury. There was a greater variety of medical problems in this category.

In a review of 661 severe accidents, Kulowski noted that the frequency of injury to the head and face was 39 per cent, to the extremities 28 per cent, and to the chest 14 per cent. Head injuries, concussions included, were eight times more frequent than injury to the chest or abdominal cavity.

With the number of automobiles on the road and the average horsepower of the automobile both constantly increasing, a physician whose circumstances of practice are such that he might become involved must ask himself what he will do if the door of his office or emergency room opens and a severely mutilated patient suddenly appears.

If the patient is brought in on a stretcher, he should not be moved from it until he reaches a hospital bed or an operating room table. Moving a patient with severe injuries can throw him into shock or cause further trauma. The care of asphyxia, shock and hemorrhage take precedence over everything else.

Pulmonary Complications

If the patient is unconscious or severely injured, the first thing to check is the airway, noting meanwhile whether the patient is breathing with difficulty or appears cyanotic. It is possible that the throat is blocked by the tongue or by blood and mucus. If so, the tip of the tongue must be pulled forward or suction applied to remove secretions. The patient should be placed recumbent with the head slightly lowered and turned to the side to prevent the tongue from dropping back into the pharynx or the aspiration of secretions, blood or vomitus. If oxygen is available it should be administered by nasal catheter or mask. (An exception to this positioning is made in the case of severe injury to the chest, the patient then usually being more comfortable in a semi-sitting position.)

If blood continues to accumulate and block the airway, tracheostomy should be done without delay. Oxygen may be given by catheter through the opening.

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Presented at the Medical Seminars for General Practitioners, July 9, 1961, University of California Conference Center, Lake Arrowhead.

Submitted November 15, 1961.

Any physician doing general practice or handling emergencies should have a tracheostomy tray available in his office. To perform an emergency tracheostomy in the office, a rolled sheet is placed between the shoulder blades to hyperextend the neck. The skin and deeper tissues are infiltrated with a local anesthetic and a low transverse skin incision is made. The strap muscles are divided in the midline, and the thyroid isthmus is retracted upward, or is divided if necessary. A small segment of either the third or fourth tracheal ring is removed, and the tube is inserted.

If breathing is labored even though the airway is patent, a flail chest, a sucking wound of the chest or pneumothorax must be suspected. Any of these conditions, if not dealt with rapidly, can cause death before the patient can reach a hospital.

A sucking wound permits enough air to be drawn into the chest to collapse a lung. The wound must be closed immediately; a gauze pad impregnated with petrolatum is pressed against the opening and several abdominal pads are taped over it until definitive operation can be performed.

The driver of an automobile may be thrown against the steering wheel, a severe blow to the sternum and rib cage causing multiple fractures of the ribs. With the usual form of the thoracic cage thus altered, the pleural cavity can collapse upon inspiration. This paradoxical motion demands immediate attention. The collapse can be reversed by inserting a towel clip into the sternum and applying traction to it.

The other major pulmonary problem of primary concern is extensive pneumothorax, which can be brought about by fractures of the ribs and tearing of the pleura and lung. If the patient is quite short of breath, tension pneumothorax should be suspected. Percussion and auscultation may confirm this diagnosis. A needle should be introduced into the third interspace anteriorly and the air aspirated. Rubber tubing attached to the needle can be placed into a water-seal bottle if necessary.

Hemorrhage

Hemorrhage should be treated early to prevent further loss of blood and deeper traumatic shock. Saving blood is far better than replacing it with blood from a donor. The best way to stop external bleeding is by direct pressure with a gauze pad applied over the vessel. Tourniquets should be avoided if at all possible, for the occlusion they bring about may be so severe that the limb is endangered.

Shock

Even if the patient is not in shock when the physician first sees him, shock may be expected. Sometimes it comes suddenly and causes complete collapse. The physician should not wait for a fall in blood pressure before starting treatment of shock, since by the time pressure falls shock is well advanced. It is wise to start intravenous infusion of fluids with a large bore needle—at least 18 gauge—and at the time of insertion of the needle, a specimen of blood may be withdrawn for typing and crossmatching. If the patient is severely injured, infusion should be started at several points in the extremities, for when shock occurs the veins may collapse, making insertion of a needle difficult. Dextrose and water or saline solution is a poor substitute for blood but can be used to keep the veins open. Blood substitutes like Dextran® may be used until whole blood can be obtained. Plasma may also be used, but only with care, because of the problem of viral hepatitis. If one is sure of the source, it is an excellent substitute. It is important to emphasize that in traumatic shock, whether there is evidence of blood loss or not, whole blood is needed.

Pain in itself may potentiate the development of shock. If there is no evidence of a head injury, morphine may be given for severe pain. Since peripheral vascular collapse may make for poor absorption of the drug if injected intramuscularly, it may be given intravenously. It ought not be used if brain injury is suspected since constriction of the pupils caused by morphine masks the development of increased cranial pressure.

If the patient is cold, a blanket may be added to keep him warm but care should be taken not to overheat him lest sweating cause further loss of fluid.

TRANSFER TO THE HOSPITAL

Once the major causes of death following a severe accident are under control, the physician can appraise the patient's injuries and arrange for transferring him to a hospital for definitive care. A few minutes spent in trying to learn the mechanism of the accident may save the patient's life. The type of accident may give a clue to possible internal injuries which might otherwise be overlooked in favor of the most obvious external injuries.

While waiting for the ambulance, the physician should gently perform a very brief physical examination. Rough handling may cause severe traumatic shock. Clean compresses should be applied to all bleeding wounds and splints applied at any points where it appears there may be fractures of extremities.

Getting the patient to a hospital quickly is important. Repair of lacerations and taking x-ray films can wait until then. Even films of the skull are not an emergency unless the patient is comatose or one suspects a depressed skull fracture or fractures involving the middle meningeal artery. Transfer to a hospital may be undertaken as soon as a satisfactory airway is established, shock is being treated or prevented and hemorrhage is controlled. It is the treating physician's duty to make the emergency room aware of the possibility of multiple injuries, particularly if there is one obvious lesion that might otherwise get all the attention. If the first-aid physician administers any drug, he ought to make note of it on a tag attached to the patient or by marks on the patient's forehead.

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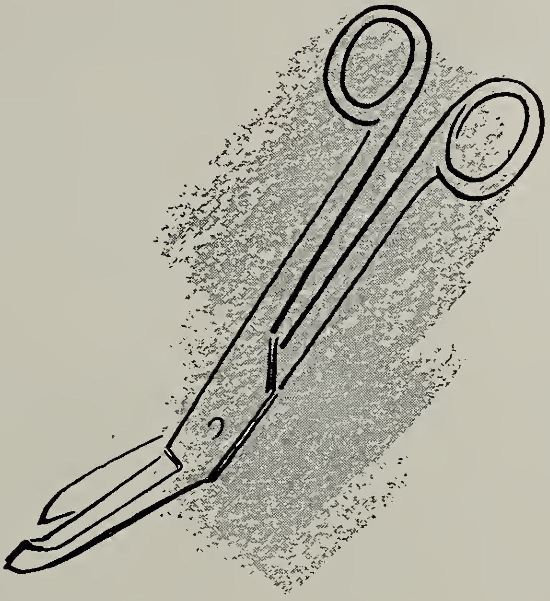

Plant Dermatitis in California

CLETE S. DORSEY, *M.D.*, Pasadena

• A number of plants indigenous to California can cause contact dermatitis similar to that caused by poison oak—philodendron, oleander, fig family, castor bean, chrysanthemum family, Chinese rice paper plant and several others.

Patch testing can be used to prove a suspected diagnosis.

In some occupations dermatitis from one or another of these agents is more or less common.

So COMMON is poison oak dermatitis in California that it tends to obscure the fact that a number of other indigenous plants also may cause dermatitis of a kind that could be mistaken for reaction to poison oak.

I have observed cases of dermatitis caused by contact with all the plants dealt with in this communication, and in all instances the diagnosis was established by patch testing.

Algerian Ivy

Algerian ivy is so commonly used in California as a ground cover that a morphological description is not necessary. There are dozens of varieties which are nothing more or less than miniatures with slight variations in leaf form. The morphologic features, modes of contact and means of treatment already have been described in detail.[5,6] Almost invariably it will be found that the patient having the disease cut back a growth of the ivy a day or two before the onset of dermatitis. Cutting back Algerian ivy will usually be necessary only in February, March or April, their period of rapid growth, after which they go into a slowly growing semidormant stage. If this plant is the cause of the skin eruption, reaction to a patch test with juice from crushed leaves will occur within 48 hours.

Philodendron

The common house plant *philodendron* has been reported to cause dermatitis. Exposure occurs when the victim washes, oils or plucks the leaves. The eruption which occurs may be mild or severe. It is characteristic of philodendron dermatitis that the attacks have no relationship to season, since the plant grows indoors.[4] For this reason dermatitis from this cause frequently is not diagnosed, the patient having numerous perplexing episodes. Once the cause is suspected and proved by means of a patch test, the patient can avoid the disease simply by avoiding contact with the plant.

Diffenbachia, a common house plant closely related to philodendron, may also cause dermatitis.

Oleander

Oleander causes dermatitis if crushed leaves come into contact with the skin of persons who have been made allergic by previous exposure. Usually the victims are children who have been playing around the shrubs. Oleander poisoning due to eating the leaves also occurs primarily in children. Since oleander is not deciduous it may produce dermatitis at any time of the year. Patch testing will confirm the diagnosis when suspected.

Fig Family

Fig trees and rubber trees belong to the *Ficus* genus of plants. All members of this family have a milky sap which is commonly called latex. Theoretically all members of this family could cause dermatitis, since rubber, which is derived from latex, is one of the commoner causes of contact dermatitis. However, the degree to which they cause trouble is limited by the fact that most of them are rarely handled or trimmed. These plants have a special interest for dermatologists because they may sometimes induce a photodermatitis in addition to or instead of ordinary contact dermatitis.

The two most common offenders in this group are the ordinary fig tree aud *Ficus repens,* a small-leafed ground cover. The sap from either may cause dermatitis or photodermatitis. One should remember, in patch testing for sensitivity to these plants, to expose the patch test area to sunlight if the response should be negative after 48 hours.

Castor Bean

The castor bean plant is used in landscaping but also grows wild. The beans are poisonous. Because of their bright color at certain times of the year, children are attracted to them and become poisoned by eating them. Dermatitis results when juice from the leaves or stems gets on the hands or when the beans are held in the hand. This plant may cause dermatitis at any time of the year.

Primrose Family

There are many varieties of primrose plants, any of which may cause dermatitis. The most frequent offender is *Primula obconica.*

Submitted December 21, 1961.

Chrysanthemum Dermatitis

Chrysanthemums, asters, Shasta daisies, rainbow daisies and other types of daisies all belong to the same family of plants. Most of them have been reported to have caused dermatitis under certain conditions. Since most of them emit a pollen, asthma and hay fever as well as dermatitis may occur in persons who are sensitive to them. Dermatitis, asthma and hay fever from these plants are occupational hazards in the flower industry. Seven of 20 florists whom I interviewed were allergic in some way to one or all of this group of plants. In clinical practice chrysanthemums cause the most trouble. Usually dermatitis from this cause comes in the late fall and early winter, which is the blooming season. Since the blooms emit a pollen, the eyelids may be the first or even the only site of involvement. This may be the clue—eyelid dermatitis occurring in late fall—that leads to the diagnosis of sensitivity to chrysanthemum. Many patients will have dermatitis elsewhere, sometimes even over the entire body, from contact with chrysanthemum plants or pollen. The diagnosis may be confirmed by means of a patch test.

Chinese Rice Paper Plant

Chinese rice paper plant, a popular ornamental shrub, may cause severe dermatitis. The toxic substance in this case is a heavy yellow pollen produced by the plant in the fall and winter months.

Miscellaneous Group

I have seen or have heard of individual cases of dermatitis from the following causes: Dichondra,[12] magnolia,[8] century plant,[11] tea roses,[1] greasewood[2] and *Wigandia caracasana.*[3] *Encelia californica,* a wild shrub with which I am not familiar, also has been reported to cause dermatitis.[10]

INDUSTRIAL ASPECTS

Persons who work as nurserymen, florists, horticulturists or gardeners may have occupational dermatitis from contact with the following plants: Diffenbachia, breakfern, chrysanthemums, asters, daisies, philodendron,[7] Algerian ivy, primroses, daffodils, poinsettias, *Ficus repens* and century plants. In Los Angeles, "grevillea poisoning" is well known among electric power companies whose workers have to protect their lines and among men cutting Australian silk oak trees (*Grevillea robusta*) for the streets and park departments.[9] Persons engaged in the manufacture of or use of castor bean meal (a fertilizer) or pyrethrum (an insecticide extracted from chrysanthemums) are subject to occupational dermatitis from handling these products.

65 North Madison Avenue, Pasadena 1.

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Your License and the Law

JAMES F. REGAN, *Ph.D., M.D.*, Los Angeles

• Rare is the individual respondent in a hearing before the California Board of Medical Examiners who has read the compilation of laws relating to the practice of medicine and surgery before he became involved with the law. Many physicians do not realize that the conviction of either a felony or any offense, misdemeanor or felony involving moral turpitude constitutes unprofessional conduct and that, after being penalized by the civil courts, they then are subject to action by the Board which may revoke the license to practice. During 1960, forty-two hearings on charges of unprofessional conduct were held. Many of these could have been avoided had the doctors involved not been ignorant of the law.

THE PHYSICIAN'S AND SURGEON'S CERTIFICATE issued to you by the Board of Medical Examiners is one of the most important documents you possess. It grants you formal permission by the authorities of the State of California to practice medicine and surgery within its confines. Most doctors of medicine applying for licenses to practice medicine and surgery have spent many years of hard work to obtain their M.D. degrees and their license to practice. Yet few take the time or make the effort to become informed about the laws relating to the practice of medicine and surgery.

For a number of years, members of the Board of Medical Examiners have been asking the respondents in Board hearings if they had read the compilation of laws relating to the practice of medicine and surgery before they became involved with the law. Rarely is the answer yes. It is the feeling of the Board that a large proportion of physicians who have not appeared before it have not read them.

The Legislature has enacted the laws relating to the practice of medicine and surgery in order to protect the public. These laws govern the qualifications of the licensee and provide a minimum code of ethics.

"The attrition rate each year of physicians lost to practice for disciplinary reasons probably exceeds the combined output of four medical schools," according to Dr. Harold Jervey, past president and now secretary of the Federation of State Medical Boards in the United States. He ascribed much of the trouble to physicians' ignorance of the law.

NARCOTICS

During the year 1960, forty-two hearings on charges of unprofessional conduct were held under the jurisdiction of the California State Board of Medical Examiners. Nine of these were for a conviction of violation of the Harrison Narcotic Act—that is, prescribing, selling, furnishing or giving away narcotics or dangerous drugs to habitués or addicts. These are violations of Sections 2384, 2391 and 2391.5 of the Business and Professions Code:

> *2384.* The conviction of or cash compromise of a charge of violation of the Harrison Act regulating narcotics, or the conviction of a violation of the statutes of this State, regulating narcotics, or dangerous drugs, constitutes unprofessional conduct within the meaning of this chapter. The record of the conviction or compromise is conclusive evidence of such unprofessional conduct. A plea or verdict of guilty or a conviction following a plea of nolo contendere is deemed to be a conviction within the meaning of this section. The board may order the license suspended or revoked, or may decline to issue a new license, when the time for appeal has elapsed, or the judgment of conviction has been affirmed on appeal or when an order granting probation is made suspending the imposition of sentence, irrespective of a subsequent order under the provisions of Section 1203.4 of the Penal Code allowing such person to withdraw his plea of guilty and to enter a plea of not guilty, or setting aside the verdict of guilty, or dismissing the accusation, information or indictment.
>
> *2391.* Unless otherwise provided in this section, the prescribing, selling, furnishing, giving away or administering or offering to prescribe, sell, furnish, give away or administer any of the drugs or compounds mentioned in Section 2390 to a habitué or addict constitutes unprofessional conduct within the meaning of this chapter.
>
> If the drugs or compounds are administered or applied by a licensed physician and surgeon of this State or by a registered nurse acting under his instructions and supervision, this section shall not apply to any of the following cases:
>
> (a) Emergency treatment of a patient whose addiction is complicated by the presence of incurable disease, serious accident or injury, or the infirmities attendant upon age.
>
> (b) Treatment of habitués or addicts in institutions approved by the Board where the patient is kept under restraint and control, or in city or county jails or state prisons.
>
> *2391.5.* The violation of any of the statutes of this State regulating narcotics and dangerous drugs, constitutes unprofessional conduct within the meaning of this chapter.

Member California State Board of Medical Examiners.

Submitted December 8, 1961.

As stated above, in Section 2384, the conviction of or cash compromise of the charge of violation of the Harrison Narcotic Act regulating narcotics, or the conviction of a violation of statute regulating narcotics or dangerous drugs, constitutes unprofessional conduct within the meaning of this chapter. Section 2391.5 is not a duplication of Section 2384 but covers the situation where the narcotic laws have been violated and the violation is proven by facts other than a criminal conviction.

Some of these rules pertain to matters of a trivial nature. However, every physician recognizes the dangers of the indiscriminate use of narcotics and for this reason the law is spelled out in detail. It is almost incomprehensible to the members of the Board that educated men will sometimes do the most stupid things when it comes to handling narcotics. A recent case in point is as follows: A physician, who had been in practice for twenty years and whose record was unimpeachable, wrote triplicate prescriptions for narcotics, using the names of patients he was treating. He did not give the prescriptions to the patients but had them filled in order to obtain meperidine (Demerol®) for use in his office and on house calls for treatment of other patients. This was his method of obtaining narcotics for emergency usage instead of using the federal order form. He was served with a notice of violation of Section 2391.5 of the Business and Professions Code. He, however, came up with the usual excuse that he did not know this was against the law and, on questioning, he stated that he had not read the rules and regulations covering the practice of medicine and surgery in the State of California. Now this seems rather trivial, but nevertheless this physician's livelihood was at stake. He learned his lesson the hard way. I am sure he will not make this mistake again.

> Official triplicate prescription blanks are not to be used for ordering narcotic drugs for office use. Federal regulations provide that such supplies must be by way of federal order form which may be procured from the collector of internal revenue. Prescriptions for narcotic drugs shall be in the name of the individual patients only and the drug thereby prescribed shall be for the person whose name appears on the prescription. Any narcotic drugs that have been prescribed and are unused shall be surrendered to the federal narcotic bureau.*

Many physicians treat narcotic addicts. As pointed out above, in Section 2391, a physician cannot prescribe or furnish or administer drugs to addicts unless it is for an emergency treatment, or treatment of a patient whose addiction is complicated by the presence of incurable disease, serious accident or injury, or the infirmities attendant upon old age. The Board has had physicians before it who have prescribed huge amounts of narcotics for addicts and for "pushers" of narcotics for a fee per tablet and for conditions which were benign and ordinarily required no narcotics at all. One physician prescribed an amount for a "patient" who was a "pusher" over a period of approximately a year in excess of that utilized in a 300-bed university hospital during the same length of time.

SELF-USE OF NARCOTICS

Twenty physicians were charged with the self-use of narcotics, dangerous drugs and alcoholic beverages in violation of Section 2390 of the Business and Professions Code, which is given in its entirety below.

> *2390.* The use or prescribing for or administering to himself, of cocaine, opium, morphine, codeine, heroin, alpha eucaine, beta eucaine, chloral hydrate or any of the salts, derivatives or compounds of the foregoing substances; or the use of paraldehyde or barbituric acid, their salts, compounds or derivatives, or of any narcotic or dangerous drug regulated by the statutes of this State, or of alcoholic beverages to the extent, or in such manner as to be dangerous or injurious to a person holding a certificate under this chapter, or to any other person or to the public, or to the extent that such use impairs the ability of such person so holding such a certificate to conduct with safety to the public the practice authorized by such certificate or the conviction of more than one misdemeanor or any felony involving the use, consumption or self administration of any of the substances referred to in this section or any combination thereof, constitutes unprofessional conduct within the meaning of this chapter.

This is a very sad situation. The usual story is that the physician is working hard, is ill, is under a great deal of tension, or is having marital difficulties and wishes to keep going and decides to take a "shot." He doesn't intend to become addicted and rarely admits addiction. However, after taking one "shot," he takes another and finally is "hooked." He then begins to break the Section 2391.5, writing fictitious prescriptions and having them filled and using the narcotic for himself, or writing them for patients and taking a portion of the patients' narcotics.

Recently an elderly physician who had peripheral neuritis with diabetes mellitus started to take narcotics for relief of the burning in his feet. He administered to himself an injection of meperidine from time to time. He wrote prescriptions for patients and got them filled in order to obtain the drug for his own use. His license was revoked. He is very much upset because he is afraid his wife and family will find out that he has lost his license to practice medicine and surgery. He has rented a special postoffice box so he can receive his mail from the Board of Medical Examiners without his wife or family knowing anything about his "disgrace." He does not intend to practice medicine any more but wishes to have his license reinstated.

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*State of California Narcotic Act (1959).

Another very frequent cause of misuse of drugs results from the fact that many physicians treat members of their own family. Often they say that, not wishing to bother the family physician, they write fictitious prescriptions for the family member. The result is that the relative is, or becomes, a narcotic addict, and the physician is guilty of writing fictitious prescriptions. He also is guilty of treating a narcotic addict, and he is also breaking the Principles of Medical Ethics of the American Medical Association, which provide that a physician should not treat members of his own family.

Some physicians have been apprehended for writing prescriptions for narcotics (Percodan, Empirin Compound with codeine) when not in possession of a federal narcotic permit and when using a fictitious federal narcotic number.

A good rule here is: If you are ill and have taken a drug for relief of pain, or have taken a sleeping capsule, or have overindulged in alcoholic beverages, do not accept calls from your patients. You may be apprehended and found guilty under the provisions of Section 2390, no matter what your intentions. This is illustrated by the case of the physician who retired about 11:30 p.m. with a severe headache. He took a Nembutal capsule in order to get some sleep. About 1 a.m. the next day he received a telephone call from a patient who summoned him on a house call. Before leaving his home he took three Appetrol tablets. He had no definite recollection of what occurred until considerably later when he was in a sheriff's facility. He was charged with trying to make a house call on a patient while under the influence of a drug to such a degree that his ability to conduct the practice of medicine with safety was impaired.

Drunk driving constitutes unprofessional conduct under Section 2390 and is a cause for action by the Board. Besides conviction and administration of certain penalties by the civil authorities, the physician's license is in jeopardy, which is something many doctors do not realize.

PRESCRIPTION WITHOUT EXAMINATION

Many physicians prescribe such drugs as amphetamine and barbiturates at the request of persons whom they have not previously examined and without medical indication of the need for any such drug. Most of these same physicians do not realize that this practice constitutes unprofessional conduct as defined in Section 2399.5 of the Business and Professions Code and is subject to disciplinary action.

> *2399.5.* Prescribing dangerous drugs as defined in Section 4211, without either a prior examination of the patient or medical indication thereof, constitutes unprofessional conduct within the meaning of this chapter.

A recent example is that of an elderly physician who has been licensed in California over forty-five years. He had worked intermittently in foreign missions in South America for his church for over thirty-five years. Upon returning to the United States, his retirement income being insufficient, he resumed the practice of medicine. He prescribed large amounts of amphetamine to persons who simply requested it and did not examine them. The physician was apprehended and found guilty as charged. He had not realized that he was breaking the law. He admitted that he had not read the rules and regulations governing the practice of medicine and surgery in the State of California. His license was suspended and he was placed on probation.

Many such cases come before the Board. Before prescribing dangerous drugs under such circumstances, remember the law and do not place your license in jeopardy.

CRIMINAL ABORTION

Three of the hearings which were held concerned criminal abortions, or violations of Section 2377 of the Business and Professions Code.

> *2377.* The procuring or aiding or abetting or attempting or agreeing or offering to procure a criminal abortion constitutes unprofessional conduct within the meaning of this chapter.

The story is usually that the physician feels sorry for the patient, a young girl who is unmarried and becomes pregnant and is in "desperate straits." Once the physician has committed himself, the word usually gets around and a second young woman approaches him; the second time it is easier for him to perform the abortion, and finally he is "hooked" and can't quit even though he wishes to do so.

Six hearings were held for violations of Section 2383 of the Business and Professions Code, which deals with the conviction of a felony or crime involving moral turpitude.

> *2383.* The conviction of either (1) a felony or (2) any offense, misdemeanor or felony, involving moral turpitude constitutes unprofessional conduct within the meaning of this chapter. The record of conviction shall be conclusive evidence only of the fact that the conviction occurred. The board may inquire into the circumstances surrounding the commission of the crime in order to fix the degree of discipline or to determine if such conviction is of an offense involving moral turpitude. A plea or verdict of guilty or a conviction following a plea of nolo contendere made to a charge of a felony or of any offense involving moral turpitude is deemed to be a conviction within the meaning of this section. The board may order the license suspended or revoked, or may decline to issue a license, when the time for appeal has elapsed, or the judgment of conviction has been affirmed on appeal or when an order

granting probation is made suspending the imposition of sentence, irrespective of a subsequent order under the provisions of Section 1203.4 of the Penal Code allowing such person to withdraw his plea of guilty and to enter a plea of not guilty, or setting aside the verdict of guilty, or dismissing the accusation, information or indictment.

As stated above, the conviction of either (1) a felony or (2) any offense, misdemeanor or felony involving moral turpitude constitutes unprofessional conduct. The members of the Board are continually shocked when such cases are brought to their attention to determine if such conviction is of an offense involving moral turpitude and to fix the penalty. One gets the impression that there is an increase in the number of these cases. Whether it is actual or relative, we have not determined. The cases of this type which have been heard are many and varied. For instance, a physician was treating a young girl for sexual promiscuity and was found guilty of having sexual relations with her. This constituted statutory rape. Several physicians have been charged with, and found guilty of indecent exposure. Others have been charged with, and found guilty of, offering to engage and engaging in homosexual acts in public places and have been apprehended on the charge of outraging public decency. The sad situation is that many of these men are married, have families, and are well established in their communities and have responsible jobs on their respective hospital staffs. The usual story is that they are having marital difficulties or have been away from home a long while, as in the armed services, and have been under the influence of alcohol. Some applicants for licenses, who have been convicted in the courts of acts involving moral turpitude before filing an application for a physician's and surgeon's license, fail to mention the conviction in the application and again run afoul of the law. Action may be taken by the Board for attempting to procure a certificate by fraud within the meaning of Section 2361.

2361. The board shall take action against any holder of a certificate, who is guilty of unprofessional conduct which has been brought to its attention, or whose certificate has been procured by fraud or misrepresentation or issued by mistake.

A member of the faculty of one of the medical schools was convicted of being guilty of violation of Section 145 (b) Internal Revenue Code, title 26, U.S. Code, in that he wilfully and knowingly attempted to defeat and evade a large part of income taxes due and owing to the United States of America for certain years by filing and causing to be filed with the Director of Internal Revenue false and fraudulent income tax returns. Said conviction was a felony and was of a crime involving moral turpitude. He was required to pay a large amount of money as a penalty. He was very much surprised when charges of unprofessional conduct, under Section 2383, were preferred by the Board of Medical Examiners and he was required to appear before it. He thought because he had paid the penalty for the income tax evasion that he was in the clear as far as his professional license was concerned. He had not read the rules and regulations covering the practice of medicine and surgery in the State of California.

USE OF UNLICENSED PERSONNEL

Two of the hearings concerned violations of Section 2392 of the Business and Professions Code, which has to do with aiding and abetting unlicensed persons in the practice of medicine.

2392. The employing directly or indirectly, of any suspended or unlicensed practitioner in the practice of any system or mode of treating the sick or afflicted or the aiding or abetting of any unlicensed person to practice any system or mode of treating the sick or afflicted constitutes unprofessional conduct within the meaning of this chapter.

Recently much publicity has been given the hearings in court of a physician who utilized the services of unlicensed physicians to administer anesthetics. The Board found him guilty and revoked his license. The Superior Court reversed the decision. The matter went to the Court of Appeals, which upheld the findings of the Board. When it reviewed the case the Supreme Court affirmed the findings of the Court of Appeals with regard to unprofessional conduct but reduced the penalty. Another case in point is one in which a physician had offices in two small towns a short distance apart, and alternated between them. The respective nurse kept the office open on the days the physician was not present. The nurse saw patients, gave them medications such as penicillin for colds, administered influenza vaccine, etc., without his knowledge or his approval. Consequently, he was found guilty of aiding and abetting.

Physicians should be very careful, particularly those who have a twenty-four hour emergency hospital, of the type of help they have during the night hours, and they also should be very careful to outline specifically the duties of these individuals. A physician should be available at all times. If a first aid man diagnoses a fracture and applies a splint without the physician's knowledge, he is practicing medicine. If the first aid man sees a patient, diagnoses a cold, prescribes treatment and gives him an injection, he is practicing medicine. The doctor who hires him and owns the office is again liable for aiding or abetting an unlicensed person to practice medicine.

FALSIFICATION OF CERTIFICATES

Two hearings were held regarding violations of Section 2411, which deals with knowingly making or signing certificates required by law which falsely represent the stated facts.

> *2411.* Knowingly making or signing any certificate or other document required by law, which falsely represents the existence or non-existence of a state of facts, constitutes unprofessional conduct within the meaning of this chapter.

Recently the case of a doctor who delivered an unwed mother was heard. He had used the name of the woman who adopted the child instead of the name of the true mother on the birth certificate. He was found guilty of unprofessional conduct. He had not realized that the law was so inflexible as to exclude the safeguarding of illegitimacy through the use of the name of the adoptive mother.

SUSPENSION FOR MENTAL ILLNESS

The adjudication of insanity or mental illness or the voluntary commitment or admission to a state hospital of a licentiate for a mental illness will result in automatic suspension of the individual's license under Section 2385.

> *2385.* The adjudication of insanity or mental illness, or the voluntary commitment or admission to a state hospital of any licentiate for a mental illness shall operate as a suspension of the right to practice of any certificate holder under this chapter, such suspension to continue until restoration to or declaration of sanity or mental competence. The record of adjudication, judgment or order of voluntary commitment is conclusive evidence of such insanity or mental illness, and upon receipt of a certified copy of such adjudication, judgment, voluntary commitment or order by the board it shall immediately suspend the certificate of the person adjudicated or committed. The board shall not restore such certificate to good standing until it shall receive competent evidence of restoration to or declaration of sanity and until it is satisfied that, with due regard for the public interest, said person's right to practice may be safely reinstated. Before reinstating such person, the board may require the person to pass an oral examination to determine his present fitness to resume his practice.

Many physicians have had their licenses suspended because they do not realize this fact. For some this may be a good thing, because otherwise they might not seek the aid they need. For some it may result in much unnecessary trouble. Recently a young physician, who had performed heroically in the Korean War and was ill, began to take narcotics for what was misdiagnosed as chronic pancreatitis. He entered a state hospital for treatment of narcotic addiction and was dismissed from the hospital. His case was handled by the Board as those of other doctors who have become narcotic addicts under similar circumstances and he regained his license to practice medicine and surgery. He continued to deteriorate physically. He was in constant contact with one of the attending physicians at the state hospital, who advised him to reenter the hospital for a physical examination and complete medical work-up. He was told by this same physician that readmission would not affect his license. As soon as he reentered the hospital, his license was suspended. He became very ill and finally went to the Veterans' Hospital where his condition was diagnosed as amebic abscess of the liver with rupture through the diaphragm into the lung. If he had had a good medical work-up in the beginning, he would not have become addicted to narcotics. If the attending physician at the state hospital had known the law, he would not have readmitted the patient.

HOW THE BOARD ACTS

Licenses were revoked outright in five of the 42 cases that came to hearing. In 30 other cases in which licenses were revoked, the revocation was stayed and the miscreant placed on probation. In three cases the license was suspended, the suspension was stayed and the miscreant placed on probation. There were three miscellaneous penalties and one case was dismissed.

Whenever information is submitted concerning actions of a physician of a nature which constitutes unprofessional conduct, the Board requests the Division of Investigation of the Department of Professional and Vocational Standards to ascertain the facts and obtain the evidence. Subsequently, an accusation is filed by the executive secretary of the Board. This initiates a hearing to determine whether a right, authority, license or privilege should be revoked, suspended, limited or conditioned. The Attorney General's Office represents the Board in all legal matters, including the preparation of the charges, and the prosecution of the charges before the Board. The licentiate accused may appear by himself or may be represented by counsel. Under the provisions of the Administrative Procedure Act, the hearing of an accusation may be considered either by the Board or by a hearing officer sitting alone. If the Board hears the case, a hearing officer must sit with the Board, and it is his responsibility to rule on the admissibility of evidence and matters of law arising during the hearing. After the matter has been presented and submitted, the Board goes into executive session and determines whether the licentiate is guilty or not guilty and, if guilty, determines the penalty to be imposed. If a hearing officer hears the matter, he makes a proposed decision, which may either be accepted or rejected by the Board. If the Board does not accept the proposed decision of the hearing officer, certain procedures as outlined in the Administrative Procedure Act must be completed in order that the Board may render a decision in the matter.

Physicians who are on probation must appear before the Board at least once a year to discuss matters of compliance with the terms of their penalty. During the past year these physicians have told the Board of two facts which should serve to make those who hold licenses to practice more than ever aware of the importance of informing themselves in matters that will protect that license. One is that some insurance companies will not give malpractice insurance to anyone on probation to the Board. The second is that county medical societies and hospitals are revoking or not renewing memberships of those who are on probation to the Board.

Dr. Jervey, as secretary of the Federation of State Medical Boards of the United States, has urged that state boards throughout the country require all applicants for a license to show a basic knowledge of medical ethics and the Medical Practice Act of the state in which they intend to practice. The Board of Medical Examiners of the State of California now requires this of applicants for license. Those who take the examination are asked questions concerning the rules and regulations governing the practice of medicine and surgery in this state.

The Board realizes that physicians are susceptible to the many weaknesses and frailties of mankind. However, more is expected of a physician because of the personal and intimate nature of his services. Whenever a physician breaks the law, the public is shocked. The number of hearings held before the Board in 1960 was in the ratio of about 1.8 per thousand doctors licensed and residing in California. Many of the infractions were due to ignorance of the law. It is hoped that what has been said here will stimulate the readers to become familiar with the rules and regulations governing the practice of medicine and surgery in the State of California, which are found in the first 140 pages of your 1961 Directory.

3757 Wilshire Boulevard, Los Angeles 5.

CURRENT CONCEPTS

Current Concepts of Cancer Chemotherapy

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• The most impressive regressions obtained to date with the use of chemotherapy are in metastatic choriocarcinoma of females. In the management of Hodgkin's disease, leukemia, and lymphoma, chemotherapy is a useful and accepted form of therapy. In many cases radiation and chemotherapy are interdependent. In disseminated carcinomas arising in the lung, ovary or breast, there is less likelihood of significant improvement with the use of chemotherapy, but if the disease is not amenable to radiotherapy, useful palliation can be obtained at times.

While newer chemotherapeutic agents for cancer, notably the pyrimidine analogues, have a broader spectrum of antitumor effects than others investigated earlier, they should be regarded as providing a valuable research stimulus in the continued search for more effective and less toxic agents.

FOLLOWING World War II the introduction of the nitrogen mustards into clinical cancer chemotherapy initiated a new era in the treatment of cancer. Extensive efforts to find chemical means of controlling neoplastic disease ensued, and the valid role of chemotherapy in medical practice remains poorly defined in many areas. In an attempt to clarify the relative role of present day chemotherapy, we propose to review briefly the types of agents known to be beneficial and the conditions in which they may be useful.

ALKYLATING AGENTS

Alkylating agents are substances which under physiological conditions are capable of reacting selectively with desoxyribonucleic acid (DNA) so that cellular injury results. The prototype of this group of substances is nitrogen mustard, although hundreds of other kinds of alkylating agents have been synthesized in the attempt to increase the therapeutic efficacy and lessen the toxicity of this compound. Structural variations include the beta chloroethyl group, the ethyleneimines and the methane sulphonyloxy alkanes (Figure 1). With all these compounds, the biological activity and clinical effectiveness are remarkably consistent. The only exception is busulfan (Myleran®), 1:4-dimethanesulphonyloxybutane, which unlike other alkylating compounds, preferentially depresses granulopoiesis rather than lymphopoiesis, so that this is a most effective agent in the management of chronic granulocytic leukemia.[33] Freedom from gastrointestinal side effects has made some agents such as chlorambucil and triethylene melamine very useful in clinical practice, but therapeutic superiority has not been demonstrated. Comparative studies suggest that thiotriethylene phosphoramide (TEPA) is slightly inferior therapeutically to nitrogen mustard in several diseases.[40]

CLINICAL USE

The preliminary report of the clinical use of the nitrogen mustards by Rhoads[32] in 1946 indicated that their therapeutic value was the induction of temporary regression in certain malignant diseases, namely Hodgkin's disease, lymphosarcoma, chronic lymphocytic leukemia, chronic granulocytic leukemia and polycythemia vera.[32] Subsequent studies were indicative of transient antitumor effects in some patients with carcinoma of the lung, carcinoma of the breast, carcinoma of the ovary, carcinoma of the nasopharynx, carcinoma of the cervix, seminoma, malignant melanoma, choriocarcinoma of females, neurogenic sarcoma and neuroblastoma.[21,22] In acute leukemia reduction of the number of leukocytes in peripheral blood, with disappearance of fever, was noted, but no remission of the disease.[5]

Hodgkin's disease. It is in the management of disseminated Hodgkin's disease that the nitrogen mustards have been most effective.[11,14] Reduction of enlarged lymph nodes, diminished hepatosplenomegaly, relief of bone pain and subsidence of fever, sweats, pruritus and anemia may occur. The primary

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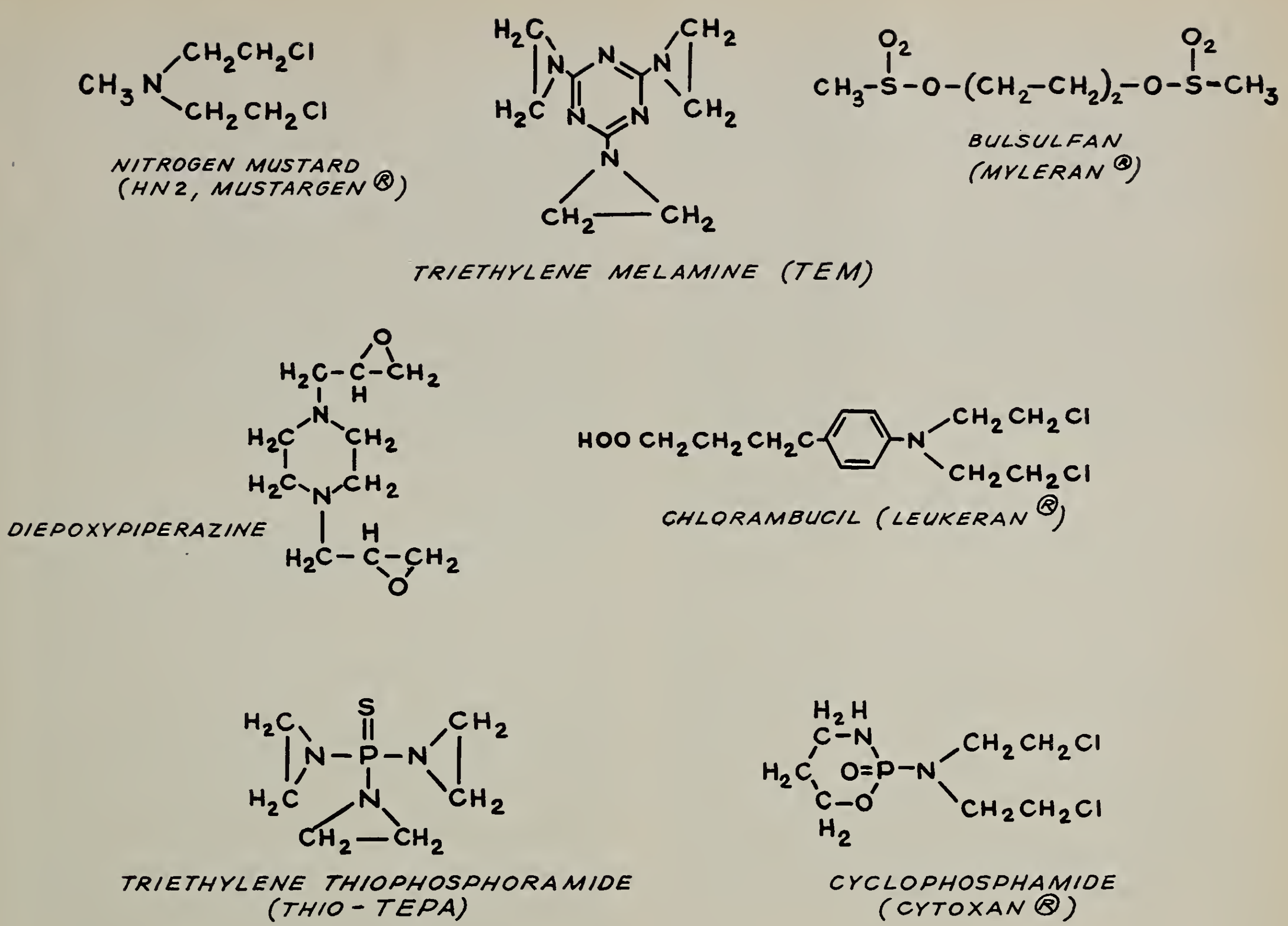
NITROGEN MUSTARD (HN2, MUSTARGEN®)
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CHLORAMBUCIL (LEUKERAN®)
TRIETHYLENE THIOPHOSPHORAMIDE (THIO-TEPA)
CYCLOPHOSPHAMIDE (CYTOXAN®)

Figure 1.—Structural variations in alkylating agents.

consideration for the use of nitrogen mustard is evidence of disseminated disease, since it is apparent that clinically localized disease may be maintained in remission of many year's duration following aggressive radiotherapy.[31] The use of suppressive oral alkylating agents may significantly prolong the remission achieved by nitrogen mustard, but this method of treatment requires meticulous attention to the peripheral blood lest permanent bone marrow hypoplasia result.

Malignant lymphoma. In the management of malignant lymphoma the qualitative results achieved are much like those observed in Hodgkin's disease, but the response is less predictable. In patients with slowly progressive disease, a gradual prolonged remission may follow nitrogen mustard treatment. Those with aggressive disease may obtain a rapid transient response.

Chronic leukemia. Alkylating agents are capable of successfully reducing and controlling the peripheral blood count in patients with chronic leukemias, as well as producing a rise in hemoglobin levels, diminution of hepatosplenomegaly and general improvement in clinical status. Because of the ease of administration and low toxicity, oral alkylating agents such as chlorambucil and triethylene melamine (TEM) have been the conventional forms of chemotherapy in chronic lymphocytic leukemia. The indications for therapy are largely dependent upon the clinical manifestations of the disease, since lymphocytic proliferation is random and the number of lymphocytes in the peripheral blood does not parallel the manifestations of the disease.[9] In chronic granulocytic leukemia, the symptoms of the disease generally correlate with the proliferative activity of the leukocytes, so that the rate of leukocyte increase is a useful guide in initiating treatment. Busulfan (Myleran) will induce hepatopoietic and clinical improvement in most cases.[10]

Carcinoma. Although genuine benefit may follow treatment with alkylating agents in several types of carcinoma, the majority of these tumors are unresponsive. Nitrogen mustard treatment is effective in 20 to 70 per cent of cases of bronchogenic carcinoma, the variation depending upon cell type, the oat cell or undifferentiated cell types being the most responsive.[2,23,25] Prompt relief of superior vena caval obstruction, reduction of pleural effusion, regression of primary and metastatic lesions, and general symptomatic improvement may result. The duration of the response is generally brief, rarely exceeding six months. A recent study demonstrated that some increase in survival can be achieved by nitrogen mustard treatment in patients with bronchogenic carcinoma.[38]

In the management of carcinoma of the breast that is refractory to hormonal or endocrine ablative procedures, alkylating agents may induce regression in 10 to 20 per cent of cases.[40] The high incidence of improvement achieved by Bateman with Thio TEPA (triethylene thiophosphoramide) was not achieved by Moore, Olson, Ultmann or Wright.[1,29,30,37,39]

In ovarian carcinoma, alkylating agents may induce symptomatic improvement in 25 to 50 per cent of cases, as manifest by diminution of ascites, reduction of tumor masses, relief of ureteral or intestinal obstruction.[28,35]

Miscellaneous neoplasms. Alkylating agents may be used in other neoplastic diseases such as malignant melanoma, neuroblastoma, seminoma and carcinoma of the cervix depending upon the stage of the disease and the clinical situation. The results are less predictable than in the conditions already mentioned, but if progressive disseminated disease is present and the general condition of the patient is good, an empiric trial is reasonable.

ANTIMETABOLITES

Cancer chemotherapy with antimetabolites has developed as the result of attempts directed toward inducing selective deficiencies of metabolites essential for nucleic acid synthesis. Their effectiveness depends upon preferentially affecting the growth rate of the tumor to an extent greater than that of normal tissue. The classes of antimetabolites in current use are the folic acid antagonists, purine antagonists and, more recently, pyrimidine analogues. Folic acid antagonists exert their effect on nucleic acid formation by reducing the source of single carbon fragments for purine, pyrimidine and amino acid synthesis.[13] Purine antagonists are less specific in their mode of action but interfere with nucleotide synthesis.[34] Certain pyrimidine analogues are incorporated into macromolecules, disrupting function of nucleic acids as well as interfering with their synthesis.[6]

Amethopterin

Amethopterin or methotrexate is the folic acid antagonist in widest use, its clinical use being greatest in the treatment of acute leukemia in childhood. Eight years following the first clinical trials, Li and Hertz reported successful treatment of choriocarcinoma of females with this agent.[26] Recent reports indicate complete regression can be achieved in about half the cases.[17] Some cases of mycosis fungoides and squamous carcinoma of the head and neck will show regression following the use of high doses of amethopterin.

6-Mercaptopurine

6-mercaptopurine, an adenine analogue, is used primarily in the treatment of acute leukemia of adults. A remission rate of 10 to 20 per cent may be obtained.[4] It is effective in the treatment of chronic granulocytic leukemia as well, but busulfan is generally used, the antimetabolite being reserved for use in the event of a terminal acute phase of the disease.

5-Fluorouracil

5-fluorouracil, a pyrimidine analogue, has shown a wide spectrum of antitumor effect in human neoplastic diseases, the most decided responses being reported in patients with carcinoma of the breast and carcinoma of the colon.[7,12] In general, the responses are brief and the proportion of cases reported responding has varied from 10 per cent to 40 per cent. The drug has a narrow therapeutic range and in effective doses generally produces significant and often serious toxic effects.[12] Since the incidence of responses is low and generally unpredictable, other conventional types of chemotherapy are preferable in such diseases as carcinoma of the breast and ovary. In the treatment of carcinomas arising in the gastrointestinal tract, the use of this drug is best considered as investigative rather than conventional chemotherapy.[41]

Pyrimidine nucleosides

The introduction of the pyrimidine nucleosides, 5-fluoro-2'desoxyuridine (5-FUDR) and 5-iodo-2-desoxyuridine (5-FIDR) represents additional efforts directed toward interference with pyrimidine biosynthesis. 5-FUDR shows greater localization in tumor tissue and less toxicity in animals than does 5-fluorouracil.[16] Clinical studies suggest less toxicity as well, so that potentially clinically more useful pyrimidine analogues may be forthcoming.

MISCELLANEOUS AGENTS

While many agents have received clinical trial, few are of current interest.

Vinblastine

Vinblastine is an extract of periwinkle plant reported to induce regression in some patients with Hodgkin's disease, lymphoma, carcinomas of the breast and colon, acute leukemia and choriocarcinoma of females.[18,19] The side effects include bone marrow depression, anorexia, nausea and central nervous system disturbances. Its clinical role is yet to be determined.

Actinomycin D

The antibiotic actinomycin D is capable of producing regression in some tumors of embryonic origin, namely Wilm's tumor and rhabdomyosarcoma, with regression as well in some cases of lymphosarcoma, Hodgkin's disease, melanoma, epidermoid tumors, neuroblastoma and carcinoma of the gastrointestinal tract.[36] It is also capable of inducing a fall in the gonadotropin titer in patients with testicular carcinomas, so that it has been used in the combination therapy (with other chemotherapeutic agents) of that disease.[27] On the whole, the incidence of tumor response in any of the above mentioned diseases is small and the side effects are usually significant, so that it has no substantial role in clinical chemotherapy.

Demecolcin

This derivative of colchicine has one-thirtieth the toxicity of the parent compound, and has been used in the treatment of chronic granulocytic leukemia.[24] It is capable of inducing remission in the majority of cases. Current studies are in progress to ascertain whether it is superior to busulfan in that disease.

op'DDD

op'DDD (2,2-bis 4-chlorophenyl, 2 chlorophenyl) -1-1-dichlorethane) an analogue of DDT, the insecticide, has been observed to have a selective destructive effect upon the adrenal cortex. Its use in patients with adrenal carcinoma reveals tumor regression as well as steroid suppression.[3] The lack of hazardous side effects suggests that this is a potentially useful agent.

COMBINATION THERAPY

The possibility of potentiating the effectiveness of agents by using them in combination with radiotherapy has stimulated numerous such clinical trials. Alkylating agents, actinomycin D and 5-fluorouracil are the agents in most frequent use in combination.

Alkylating agents with irradiation

In patients with superior vena caval obstruction, spinal cord compression, respiratory distress or ureteral obstruction, the prompt relief that may follow nitrogen mustard treatment makes it desirable as initial therapy in these situations—particularly in Hodgkin's disease, lymphoma, bronchogenic and ovarian carcinomas. Subsequent use of radiotherapy may satisfactorily control the disease. However, in localized Hodgkin's disease, nitrogen mustard therapy before radiation in the attempt for "curative" treatment is without proved value.

In the treatment of retinoblastoma, the combination of an alkylating agent, triethylene melamine (TEM) with radiation appeared to offer therapeutic advantage compared with the use of radiation alone.[20] However, the use of TEM alone or lower dose radiation alone has not yet been assayed.

Actinomycin D with irradiation

Since actinomycin D accentuates the skin reaction of radiation, it has been used in combination, particularly in the treatment of Wilms' tumor.[8] While the response rate is greater with the use of the combination than with the use of the drug alone, a concomitant evaluation of adequate radiotherapy is lacking.

5-Fluorouracil with irradiation

Reports of the potentiation of antitumor effect when 2000 r is given in conjunction with 5-fluorouracil have led to the use of this combination.[15] The largest number of cases were of bronchogenic carcinoma; others included tumors responsive to either 5-fluorouracil or irradiation singly. In the bronchogenic tumors, it is quite likely that anaplastic tumors would show significant regression with the use of 2000 r alone. Although an occasional case may show a seemingly good response from this type of combination therapy, the duration of the effect as compared with that of controls, in our experience, is not clearly greater than that obtained with either agent alone. Thus, the demonstration of adequate evidence of potentiation would require a properly designed controlled investigation in which many cases are included.

The broad spectrum of clinical behavior, responsiveness, and survival in human neoplastic diseases necessitates careful controlled studies of drug and radiation effect singly so that the results of combination therapy can be properly assessed. Highly sensitive tumors will regress with lesser doses of either therapeutic modality.

DISCUSSION

Relatively few neoplastic diseases are managed solely by chemotherapy. The concept of ultimate chemical control of cancer, although enticing, challenging, and worthy of intense research effort, is one which at this time remains visionary for most types of cancer. The broad spectrum of types and behavior of human malignant disease suggests that a diversity of agents may be required in much the same way that various antibiotics are needed in the treatment of bacterial diseases.

Few aspects of medical science are associated with reports so extravagant and enthusiastic as those stimulated by new anticancer chemotherapeutic agents. Assessment is sometimes hampered by optimistic claims which cannot be confirmed, so that progress is limited by repeated evaluations.

Since chemotherapeutic agents exert their effects on proliferating tissue, normal tissues are regularly affected. For this reason, chemotherapeutic agents should not be considered as innocuous and should not be administered indiscriminately. Some agents such as 5-fluorouracil have an equivalent opportunity of inducing either some benefit or severe toxicity just short of a fatal outcome.[41]

In order to develop substances free of toxic effects on normal tissue, the factors by which neoplastic growth differs from normal growth require further elucidation. This is a goal for the future, and for some time to come progress will continue along present day empiric approaches.

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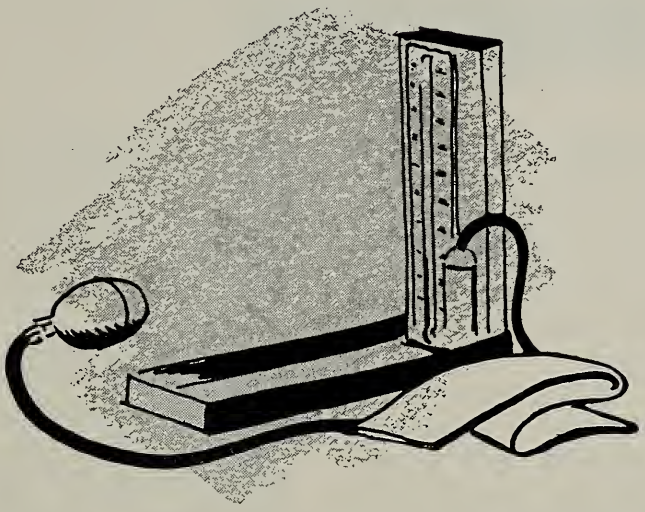

California
MEDICINE

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EDITORIAL

Another Annual Meeting

On April 18 the California Medical Association rang down the curtain on its ninety-first annual session. During its 106 years of existence the Association has missed only 15 years in holding annual meetings, and then because of war or postwar difficulties.

Taken as a whole, the 1962 meeting proceeded with extreme smoothness. It handled its transactions, dispatched its business and closed its doors on a large and apparently satisfied group of members.

Scientifically, the meeting included all the programs and functions looked for in modern medical meetings. Six outstanding guest speakers contributed their knowledge and experience to audiences in large general meetings and the more restricted sessions of the 18 specialty sections.

Medical motion pictures and closed-circuit television proved eminently popular with the scientific audience. Both types of program attracted large crowds, attesting the teaching potential of the visual demonstration as well as the spoken word. The pharmaceutical industry is due a debt of gratitude for its furnishing of films and television programs of first caliber.

Technical exhibits drew large numbers of visitors and again proved that "the best of the newest" can best be assembled at meetings of this character and size. While not all technical exhibitors receive maximum interest from the attending physicians, the consensus of those exhibiting was that a good, sound meeting had been prepared and enjoyed. Scientific exhibitors, again limited in number because of space restrictions, presented their original work in an unhurried atmosphere which encourages browsing and inquiry. The association owes a debt to these pioneers for their willingness to share findings with the professional audience of the annual session.

Legislatively, the House of Delegates handled 91 resolutions and numerous proposed amendments to the Constitution and Bylaws. Despite the size of the agenda, the meetings proceeded with a minimum of friction. It should be noted that (1) the meetings of the House of Delegates were spaced at intervals which were conducive to thorough study of the matters before the House; (2) delegates and delegations were much more prompt than formerly in forwarding resolutions to the central office so that they could be distributed in advance, and (3) the Association has developed a corps of able and experienced staff members whose background and vigilance contribute materially to the orderly functioning of reference committees.

While the list of resolutions was long, several topics appeared to attract a high level of interest. Among these were proposals for formation of professional corporations to ease physician retirement programs, public assistance programs, birth control and therapeutic abortions and the unification of the medical and osteopathic professions.

The osteopathic unification, debated at length last year, moved gently into its final phases at this meeting. Amendments to the Constitution and Bylaws were voted unanimously or nearly so and helped pave the way for the final step, a popular vote by the people of California in November to cease the further licensing of osteopathic physicians and surgeons. This measure will transfer all such licensing to the State Board of Medical Examiners and retain the State Board of Osteopathic Examiners as a policing body during the lifetime of outstanding osteopathic licenses that are not converted to licenses issued by the Board of Medical Examiners.

The November election, while not essential to the unification program of the two professions, is morally extremely desirable as an indication that all differences between the two groups have, at long last, been removed. We anticipate a hard and expensive campaign on this issue, which will be titled Proposition No. 22.

Professional corporations for physicians and other self-employed professionals were the subject of five resolutions in the House of Delegates. While physicians have long fought against the corporate practice of medicine, they have been intrigued with the possibilities of such corporations' furnishing tax advantages to participating members for the accumulation of retirement funds.

Some states have rushed into legislation which proposes to make professional corporations legal entities and to provide the tax advantages which their sponsors desire. In some of these instances it appears that the state laws are in violation of the overriding and controlling federal tax laws. In California, both the medical and legal professions have been extremely interested in the possibility of such legislation in the state, provided it can be made to mesh with federal law and provided it can be made effective in providing tax advantages without creating a professional monster to bedevil professional practice.

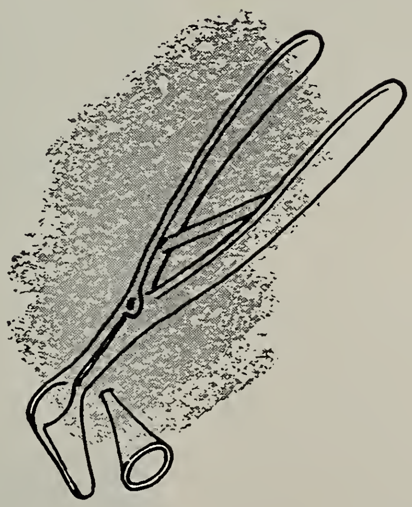
The House of Delegates, faced with this complex and many-faceted subject which is already under intense study, referred these resolutions to the Council. In turn, the Council has referred the subject to the Commission on Professional Welfare, with instructions to bring in a report in the fall of this year.

On birth control and therapeutic abortion, several resolutions were adopted, all aimed at looking into the potential of legislation which will permit danger to the health of the mother, as well as danger to her life, to be considered as legal cause for terminating a pregnancy. This touchy subject will undoubtedly create a furor in the legislative halls of Sacramento when and if it advances to that point.

The House voted to establish an ad hoc committee to review a series of proposals for the operation of public assistance programs. An ad hoc committee was also voted to consider several proposals which would call for the election of District Councilors by the members in the district, rather than by their elected Delegates.

In the formal elections, the House of Delegates unanimously chose Doctor Samuel R. Sherman of San Francisco as President-Elect. Speaker Doyle and Vice-Speaker Heron were reelected by unanimous vote. The Council in its organization meeting selected Doctor Carl E. Anderson as Chairman and Doctor Burt L. Davis as Vice-Chairman. The Council also welcomed Doctors Dave F. Dozier of Sacramento, Lewis T. Bullock of Los Angeles and Malcolm S. M. Watts of San Francisco as new members.

In retrospect the 1962 Annual Session may be recorded as well organized, well run, productive and successful. It is to be hoped that comparable efficiency and productivity may accompany future sessions.



The President's Page

The Scientific Board

A MAJOR STEP was taken by the House of Delegates at its April meeting in assisting the California Medical Association to fulfill its primary objective of the advancement of science and the protection of the public health.

Changes in the constitution and bylaws were made which make the establishment of a Scientific Board now a proposed part of our constitution and bylaw structure.

Two years ago the California Medical Association Council established a committee headed by Dr. Dwight L. Wilbur to determine the position of scientific medicine in California in respect to the parent organization and how the various segments of the scientific arm could more effectively unify common efforts of advancement. Dr. Wilbur's committee included medical school deans, teachers and other knowledgeable members of our Association interested in continuing medical education and scientific research. The committee report, representing an exhaustive study in all facets of the art, science and economics of medicine, was made to the Council and the House of Delegates. General approval of the proposals has been given. Implementation of some of the recommendations must await constitutional amendment.

The Council may be expected to pursue with vigor those steps which, through bylaw amendment, are now permissive.

In general, it can be stated that a Scientific Board composed of members selected from the scientific sections of the C.M.A. and from other organizations interested in various medical specialties will be established. This board will supervise all scientific activities of the Association, including the annual session, postgraduate activities and scientific publications. Representation from the board on the Council and in the House of Delegates will strengthen our efforts in many areas of activity. It will serve as the authoritative source for scientific information.

Placing the science, art and economics of the practice of medicine in proper perspective will be rewarding individually and collectively. I am convinced we will be making a major step toward the California Medical Association's primary objective.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Samuel R. Sherman, M.D. C.M.A. President-Elect

Doctor Samuel Robert Sherman was unanimously elected President-Elect of the California Medical Association April 17, 1962.

Doctor Sherman, who is Associate Chief of Surgery, Mount Zion Hospital, San Francisco, was born in Stockton, California, attended the University of California, Berkeley, and received his M.D. degree from the University of California Medical School at San Francisco in 1932.

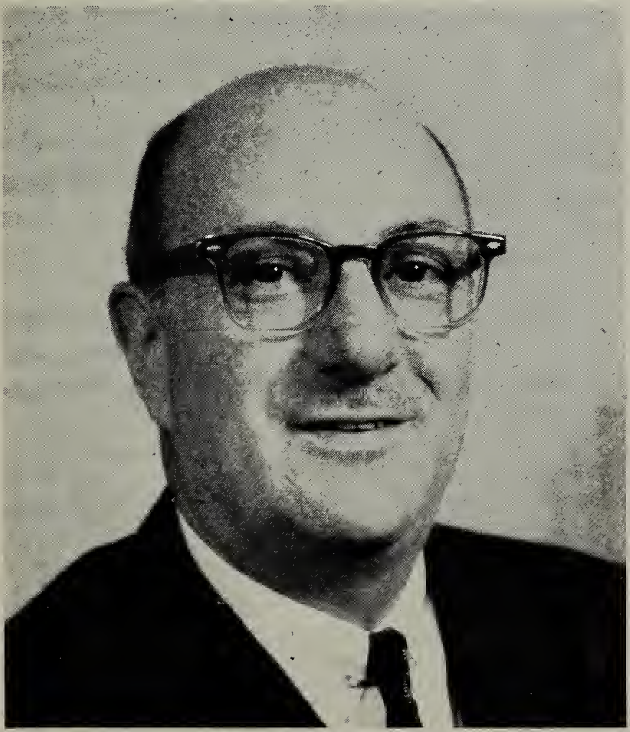
Leaving his private surgical practice in 1941, he joined many colleagues and reported for active military duty. He became a naval flight surgeon, attained the rank of Captain, U.S.N.R., and received the Navy Cross for valor under fire on the carrier *Benjamin Franklin*. He was also awarded the Purple Heart.

Following the war he turned his interest again to civic and medical society affairs. He was elected in 1955 to serve as President of the San Francisco Medical Society, which he did with vigor and distinction.

In 1956 he was elected Councilor for the Seventh District, became vice-chairman of the Council in 1957 and chairman in 1960. In 1961 he was elected as an alternate delegate to represent California in the House of Delegates of the American Medical Association.

Meanwhile, from 1952 to 1960, he organized the medical defense structure in San Francisco, serving as chairman of the Medical Section of the Mayor's Committee of Civil Defense and Disaster during those years. He also became chairman of the C.M.A. Liaison Committee to the California State Department of Social Welfare and in 1960 was made chairman of the Medical Care Advisory Committee of the State Department of Social Welfare.

While several details of Doctor Sherman's qualities, including service, energy and capability are apparent from the foregoing, the spectrum is by no means filled; while no job is too small—or too large



SAMUEL R. SHERMAN, M.D.

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BURT L. DAVIS, M.D.	Vice-Chairman of the Council
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—for his attention, his respect for others allows him easily to delegate. His intuitive, as well as factual knowledge and his capacity for incisive decision proclaim him ideally fitted for his new duties.

The California Medical Association may well be proud of its new President-Elect and he, in his turn, can assume his office in the good and full knowledge that he has long since earned the respect and loyalty of his fellow physicians in the California Medical Association.

EUGENE WEBB, M.D.

Council Meeting Minutes

479th Meeting

Minutes of the 479th Meeting of the Council, San Francisco, Mark Hopkins Hotel, April 14 to 17, 1962.

The meeting was called to order by Chairman Sherman in the Mark Hopkins Hotel, San Francisco, on Saturday, April 14, 1962, at 10:00 a.m.

Roll Call:

Present were President Bostick, President-Elect Wheeler, Speaker Doyle, Vice-Speaker Heron, Editor Wilbur, Secretary Hosmer and Councilors MacLaggan, Wilson, Todd, Quinn, O'Neill, Kirchner, O'Connor, Ham, Rogers, Dalton, Murray, Davis, Miller, Sherman, Campbell, Morrison, Kaiser, Anderson and Teall.

All members present and voting.

Present by invitation were Messrs. Hunton, Thomas, Clancy, Collins, Marvin, Whelan, Klutch, Tobitt, Edwards, Bowman, Doctors Batchelder and Miller and Mrs. Griffith of C.M.A. staff; Messrs. Hassard and Huber of legal counsel; Messrs. Read and Salisbury of the Public Health League; county executives Scheuber of Alameda-Contra Costa, Lingerfelt of Fresno, Dalbec of Los Angeles, Donovan and Colvin of Santa Clara, Brayer of Riverside, Donmyer of San Bernardino, Thompson and Monnich of San Joaquin, Funk of Solano, Brown of Sonoma, and Rideout of Butte-Glenn; Mr. Dick Philleo of the A.M.A.; Mr. J. E. Bryan, consultant; and Doctors Edgar Rosen, Robert Watson, Jack Murietta, Dudley Cobb, John E. Vaughan, T. Eric Reynolds, Robert Plum, Robert Purvis, Eugene Hopp, Gerald Shaw and others; Dr. Malcolm Merrill, State Director of Public Health; Dr. Lester McDonald and Mrs. Eunice Evans of the State Department of Social Welfare.

1. *Minutes for Approval:*

On motion duly made and seconded, minutes of the 478th Council meeting, held March 17, 1962, were approved.

2. *Membership:*

(a) A report of membership as of April 11, 1962, was presented and ordered filed.

(b) On motion duly made and seconded, 91 delinquent members whose dues had been received since April 1, 1962, were voted reinstatement.

(c) On motion duly made and seconded in each instance, 14 applicants were voted Associate Membership. These were: Joan R. Hart, Thomas J. Mudge, Earl Siegel, Alameda-Contra Costa County; Elizabeth Hylton, Philip R. Woodworth, Orange County; Edward R. Hodgson, Sacramento County; Romaine R. Trainor, San Diego County; Charles John Defren, San Joaquin County; Solomon P. Bucksbaum, M. J. Holdsworth, Raymond M. Kivel, Philip F. Mark, Santa Clara County; Irma M. Karnopp, John F. McLeay, Ventura County.

(d) On motion duly made and seconded in each instance, 12 members were voted Retired Membership. These were: Galen C. Nedry, Butte-Glenn County; Harry H. Davis, Ralph Averill Gowdy, Martin Kates, Turner Burton Smith, Los Angeles County; Charles A. Galligan, Raymond V. Rukke, Monterey County; Richard C. Cochran, Orange County; Albert Q. Spaulding, Santa Barbara County; Anthony T. Sunzeri, Fleta Hazel Williams, Santa Clara County; Samuel Vaughn Dragoo, Sonoma County.

(e) On motion duly made and seconded in each instance, 18 members were granted reductions of dues because of illness or postgraduate study.

3. *Department of Public Health:*

Dr. Malcolm Merrill, State Department of Public Health, reviewed the new measures adopted by the special session of the state legislature. He also reported that all three types of oral poliomyelitis vaccine have now been approved.

4. *State Department of Social Welfare:*

Mrs. Eunice Evans of the State Department of Social Welfare reviewed the programs under way in the department and brought up to date the progress of various procedures and programs.

5. *California Physicians' Service:*

Dr. John Morrison reported on the national Blue Shield meeting held in Colorado Springs. He also stated that C.P.S. board members would man the C.P.S. exhibit booth and be available to answer questions or explain procedures.

6. *Supplemental Report of the Council:*

A supplemental report of the Council, covering progress on the osteopathic unification program and developments on Resolution No. 38 from the 1961 House of Delegates, was presented and, on motion duly made and seconded, approved for presentation to the House of Delegates.

7. *Liaison Committee to C.P.S.:*

The Liaison Committee to C.P.S. presented a report which, on motion duly made and seconded, was approved.

8. *Mental Health Proposals:*

Report was made by a special committee named to review the proposals made by Dr. Daniel Blain, State Director of Mental Hygiene, in which he requested backing in seeking the inclusion of mental disease and tuberculosis in Title One Social Security Act program from which these conditions are now excluded. On motion duly made and seconded, and following adoption of an amendment which would limit the Association's support to cases within California, the report was voted approval.

9. *Committee on Blood Banks:*

Dr. Robert Purvis reported that all 12 blood banks sponsored by the Association had complied with the requirements of sponsorship and asked that they be sponsored for the coming year. On motion duly made and seconded, such sponsorship was voted.

Dr. Purvis also requested that consideration be given to continuing the Committee on Blood Banks in existence for one year, during which time the California Blood Bank System, in which the committee members have a vote, could reorganize its structure. Subsequently, the one-year continuance was approved.

10. *Committee on Other Professions:*

Dr. Wayne Pollock reviewed the osteopathic unification program and he and his committee members were warmly thanked by the Council for an excellent performance.

Dr. Pollock also presented a series of requests made in behalf of the nursing profession, as follows:

(a) A two-year course leading to a degree as Associate in Arts, to be presented by the California Nurses Association to the 1963 Legislature was, on motion duly made and seconded, approved for support by the Association.

(b) Legal counsel was asked to draw up an outline of teaching or demonstration of closed heart resuscitation procedures for nursing or other nonmedical personnel.

(c) The Council agreed that nurses should not give immunization injections except where a physician is immediately available and supervising.

(d) The Council agreed that nurses should not practice hypnosis or hypnotic therapy.

11. *Committee on Committees:*

Dr. Wheeler presented a series of recommendations for commission or committee appointments and all were approved.

12. *Staff Report:*

Mr. Hassard reported that the Medical Executives Conference had considered Resolution No. 19 of the 1961 House of Delegates, which had suggested a standard form of handling membership transfers; the consensus was that local autonomy must prevail and that standard requirements should not be applied.

Mr. Hassard also reported on the quantity of various pamphlets requested by members in regard to medical care of the aged.

Discussion was held on the question of the Association's making use of air charter services and it was agreed that no such charters should be used unless they were required for Association business. On motion duly made and seconded, this policy was approved.

13. *Commission on Community Health Services:*

Dr. MacLaggan presented a proposed certificate to be given to hospitals which have met the standards of the commission. On motion duly made and seconded, the format of this certificate was approved.

14. *Television Program:*

Discussion was held on the advisability of presenting a prepared television program on the subject of medical care for the aged. On motion duly made and seconded, it was voted to present this program over a series of California television stations and to supplement the presentation with an offer to provide speakers on this subject for those interested.

15. *Audio-Digest Foundation:*

Mr. K. L. Hamman presented a business report on the activities of Audio-Digest Foundation during the past year and Mr. Claron Oakley reported on the editorial activities. On motion duly made and seconded, the Council approved the actions of the foundation during the past year and elected the following as members of the Board of Trustees: Doctors Gordon Beckner, Thomas H. Brem, William D. Evans, Ivan C. Heron, Donald D. Lum, Robert L. Marsh, John Pender, Omer W. Wheeler (as President of C.M.A.) and Samuel R. Sherman (as President-Elect of C.M.A) and Messrs. K. L. Hamman and Claron L. Oakley.

16. *Pacific Magnetic Tape Equipment Co.:*

Dr. Lum and Mr. Hamman presented a report on the activities of Pacific Magnetic Tape Equipment Co., which is in process of retiring as a corporation and liquidating its assets. On motion duly made and seconded, the following were elected as members of the board of directors: Doctors William D. Evans, Donald D. Lum and Robert L. Marsh and Messrs. K. L. Hamman, Howard Hassard, Claron L. Oakley and Jerry L. Pettis.

17. *Honoring Past A.M.A. Presidents:*

On motion duly made and seconded, it was unanimously voted that a resolution be introduced in the House of Delegates to confer the honors and privileges of Past Presidents of the Association on members who had achieved the presidency of the A.M.A. but were not recognized in the C.M.A. House of Delegates.

Adjournment:

There being no further business to come before it, the meeting was adjourned on Tuesday, April 17, 1962, at 9:10 a.m.

SAMUEL R. SHERMAN, *Chairman*
MATTHEW N. HOSMER, *Secretary*

* * *

480th Meeting

Minutes of the 480th Meeting of the Council, San Francisco, Mark Hopkins Hotel, April 18, 1962.

The meeting was called to order by Chairman Sherman in the Mark Hopkins Hotel, San Francisco, on Wednesday, May 18, 1962, at 7:30 a.m.

Roll Call:

Present were President Wheeler, Past President Bostick, President-Elect Sherman, Editor Wilbur, Secretary Hosmer, Speaker Doyle, Vice-Speaker Heron and Councilors MacLaggan, Wilson, Todd, Quinn, O'Neill, Bullock, O'Connor, Ham, Dalton, Rogers, Davis, Miller, Watts, Campbell, Morrison, Kaiser, Anderson and Dozier. Absent for cause, Councilor Murray.

Present by invitation were Messrs. Hassard and Hunton, of legal counsel and staff.

Introduction of New Councilors:

The chairman introduced as new councilors, Dr. Lewis T. Bullock of the Third District, Dr. Malcolm S. M. Watts of the Seventh District and Dr. Dave F. Dozier of the Tenth District, who were welcomed by the Council.

1. *Election of Council Officers:*

On motion duly made and seconded in each instance, Dr. Carl E. Anderson was unanimously elected chairman and Dr. Burt L. Davis was unanimously elected vice-chairman.

2. *Administrative Appointments:*

On nominations duly made and seconded in each instance, the following appointments were made by unanimous vote:

Secretary	Matthew N. Hosmer
Editor	Dwight L. Wilbur
Executive Secretary	John Hunton
Legal Counsel	Peart, Baraty & Hassard

3. *Committee Appointments:*

On nominations duly made and seconded in each instance, the following appointments were unanimously voted:

(a) *Finance Committee*—Councilor Davis, Chairman; Councilors O'Neill, Murray, Dalton and Campbell.

(b) *C.P.S. Board of Trustees*—Councilors Davis, Rogers and Heron.

(c) Advisory Committee to Woman's Auxiliary—Doctors Warren L. Bostick and E. Vincent Askey, to serve with President, President-Elect and Secretary.

(d) *Committee on Committees*—President-Elect Sherman, chairman; Councilors Wilson, Dozier, Miller, O'Neill, Rogers, Todd, Doyle, Wheeler and Anderson.

4. *California Medicine:*

Dr. Wilbur announced that he would be out of the country during May and June and suggested that Dr. Edgar Wayburn of San Francisco be appointed as acting Editor during his absence. On motion duly made and seconded, this appointment was voted.

5. *Scientific Board:*

Dr. Wilbur suggested that a committee to name the members of the Scientific Board be appointed as a study committee of the Council, to choose the organizations to be represented on the Scientific Board. It was agreed that such committee be named by the chairman. Dr. Anderson made the following appointments: Dwight L. Wilbur, chairman, Malcolm S. M. Watts, vice-chairman, Dave F. Dozier, Malcolm C. Todd, James C. MacLaggan, Wilbur G. Rogers and James C. Doyle.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 8:45 a.m.

CARL E. ANDERSON, *Chairman*
MATTHEW N. HOSMER, *Secretary*

In Memoriam

Amaral. Francis C., San Diego. Died May 5, 1962. in San Diego, aged 60, of heart disease. Graduate of Boston University School of Medicine, Massachusetts, 1932. Licensed in California in 1940. Doctor Amaral was a member of the San Diego County Medical Society.

◆

Creek. Dale W., Santa Barbara. Died April 14, 1962, in Santa Barbara, aged 48. Graduate of the University of Louisville School of Medicine, Kentucky, 1943. Licensed in California in 1945. Doctor Creek was a member of the Santa Barbara County Medical Society.

◆

Delmore, Robert Joseph, Inglewood. Died April 26, 1962, in Playa del Rey, aged 43, of heart disease. Graduate of the University of Minnesota Medical School, Minneapolis, 1943. Licensed in California in 1958. Doctor Delmore was a member of the Los Angeles County Medical Association.

◆

Gailmard, Charles Raphael, Los Angeles. Died April 21, 1962, in Los Angeles, aged 71. Graduate of Emory University School of Medicine, Emory University, Georgia, 1919. Licensed in California in 1919. Doctor Gailmard was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

◆

Gilfillan, Clarence D. N., Pomona. Died March 30, 1962, in Pomona, aged 56. Graduate of the State University of Iowa College of Medicine, Iowa City, 1933. Licensed in California in 1936. Doctor Gilfillan was a member of the Los Angeles County Medical Association.

◆

Haakinson. William Herbert. Aptos. Died April 23, 1962, aged 53. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1936. Licensed in California in 1937. Doctor Haakinson was a retired member of the Santa Clara County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

◆

Hammons, Elizabeth Barnard. Los Angeles. Died December 25. 1960, aged 77, of a stroke. Graduate of the University of Minnesota Medical School, Minneapolis, 1912. Licensed in California in 1928. Doctor Hammons was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

◆

Matzen, Warren C., Beverly Hills. Died April 23, 1962, in Los Angeles, aged 57, of coronary thrombosis. Graduate of Ludwig-Maximilians-Universität Medizinische Fakultät, München, Bavaria, Germany, 1931. Licensed in California in 1940. Doctor Matzen was a member of the Los Angeles County Medical Association.

◆

McCarthy, Alphonsus Martin, Los Angeles. Died April 25, 1962, in Los Angeles, aged 65, of a ruptured aneurysm. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1927. Licensed in California in 1934. Doctor McCarthy was a member of the Los Angeles County Medical Association.

Moore, George Wilford, Los Angeles. Died April 26, 1962, in Los Angeles, aged 85, of pneumonia. Graduate of the University of Illinois College of Medicine, Chicago, 1905. Licensed in California in 1922. Doctor Moore was a member of the Los Angeles County Medical Association.

◆

Morrow, Joseph R., Redwood City. Died April 18, 1962, aged 76, of heart disease. Graduate of Fort Worth School of Medicine, Texas, 1910. Licensed in California in 1925. Doctor Morrow was an affiliate member of the San Francisco Medical Society.

◆

Ortman, Gareth S., Duarte. Died April 18, 1962. in Monrovia, aged 51, of heart disease. Graduate of the University of Kansas School of Medicine, Lawrence-Kansas City, 1938. Licensed in California in 1943. Doctor Ortman was a member of the Los Angeles County Medical Association.

◆

Robinson, John Wirt, Los Angeles. Died May 1, 1962, in Glendale, aged 81, of cerebral hemorrhage. Graduate of the University of Illinois College of Medicine, Chicago, 1904. Licensed in California in 1919. Doctor Robinson was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

◆

Schmitt, Earl O. G., San Jose. Died April 23, 1962, in San Jose, aged 62. Graduate of the University of Minnesota Medical School, Minneapolis, 1923. Licensed in California in 1928. Doctor Schmitt was a member of the Santa Clara County Medical Society.

◆

Smith, Marilyn Decker, Monterey. Died April 22, 1962, aged 38. Graduate of Stanford University School of Medicine, Palo Alto-San Francisco, 1954. Licensed in California in 1954. Doctor Smith was a member of the Monterey County Medical Society.

◆

Thomas, Elwin Wilton, Colton. Died April 9, 1962, in Loma Linda, aged 53. Graduate of the College of Medical Evangelists School of Medicine, Loma Linda-Los Angeles, 1933. Licensed in California in 1933. Doctor Thomas was a member of the San Bernardino County Medical Society.

◆

Van Dyke, Harold Milton, Long Beach. Died April 22, 1962, in Long Beach, aged 62, of pulmonary infarct. Graduate of the University of Cincinnati College of Medicine, Ohio, 1928. Licensed in California in 1930. Doctor Van Dyke was a member of the Los Angeles County Medical Association.

◆

Yerxa, Charles W., Los Angeles. Died April 27, 1962, in Arcadia, aged 84, of ureteral carcinoma. Graduate of the University of Southern California School of Medicine, Los Angeles, 1903. Licensed in California in 1903. Doctor Yerxa was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

◆

Zelman, Julius, San Bernardino. Died April 24, 1962, in San Bernardino, aged 52. Graduate of the University of California School of Medicine, San Francisco, 1937. Licensed in California in 1937. Doctor Zelman was a member of the San Bernardino County Medical Society.

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, *M.D., M.P.H.*
Director, State Department of Public Health

Research funds amounting to $30,000 were granted this month to the Oakland Center for Treatment and Education on Alcoholism. The center is an outpatient alcoholic treatment and rehabilitation facility operated by the Department's Division of Alcoholic Rehabilitation.

Dr. Joel Fort, Director of the center, said the grant funds from the National Institute of Mental Health will be used to carry out a year's study of personality changes believed to occur in patients during psychotherapy. Dr. A. R. Nurse, clinical psychologist, will direct the study.

A month ago an Alcoholic Rehabilitation Center was opened in the Long Beach City Health Department, climaxing several years of effort by local officials and citizens concerned about the prevalence of alcoholism in their city.

Dr. I. D. Litwack, city health officer, is supervisor of the center, assisted by Mr. Harry Ladas, program director. Dr. Litwack said the new clinic will cooperate with other community groups, including the Long Beach Council on Alcoholism and the Long Beach Memorial Hospital, which maintains a telephone information center on alcoholism.

* * *

Samples of home-canned food, received by the Microbiology Laboratory and examined for possible botulinus toxin, initiated investigation into two unsolved deaths in a Davis home. These persons died after a week's illness.

The symptoms in both cases were difficulty in breathing and swallowing, double vision and chest pains. The youngest of the victims was thought to have had myasthenia gravis. Investigated as possible causes of death were pneumonic plague, carbon monoxide or methyl bromide poisoning, and botulism. So far, no definite evidence has been produced to support any of the suspected causes of death.

* * *

In July the Bureau of Crippled Children Services will begin a program of care for children with cystic fibrosis. Total expenditure for this necessary service is estimated at $350,000 in State and local funds.

* * *

Beginning July 1, x-ray and other radiation-producing machines will be subject to regulations requiring that they be installed and used in accordance with recognized standards necessary for the protection of public health and safety.

Beginning September 1, the department will license and regulate persons who use radioactive materials. Most radioactive materials heretofore controlled by the Atomic Energy Commission will be included as well as other materials, such as radium, that have not previously been subject to control. The licensing program does not include x-ray machines.

This is considered to be an important forward step on the part of California. All radiation sources subject to state jurisdiction will be included in a single, comprehensive control program. The traditional pattern of state preeminence in matters of health and safety becomes established in the one field that, from its inception, has been federally dominated.

* * *

With special project funds for the chronically ill and aging and for maternal and child health, 12 counties are developing plans for the establishment of home nursing services and organized medical home care programs in the rural areas of California.

* * *

The Bureau of Nutrition has received a grant of $80,533 from the National Institute of Arthritis and Metabolic Disease for a two-year research project of obesity assessment and related factors.

Purpose of the study is to develop methods for assessment of obesity or degree of body fatness that will be suitable for use in large-scale field studies. Various body measurements will be made on 2,000 healthy men and women of the ages 25 to 44 years selected so as to include a wide variation in physique. Determinations of body density and body water will be made on a sub-sample of approximately 200 of these persons.

No. 9*

"You Gotta Have Heart"

Both the physician and the patient with cardiac disease "gotta have heart." The patient must have a certain degree of functional heart capacity in order to be able to work. The physician must devote considerable thought and study to his patient if he is to give him an opportunity to return to employment at a proper work level.

A four-year study of the work classification unit of the Los Angeles County Heart Association revealed certain pertinent facts:

1. Eighty-eight per cent of the patients seen were able to remain on their jobs or return to work with a few mild restrictions.
2. Half of the patients were working in improper classifications.
3. Forty-four per cent were too greatly restricted, some working and some being kept from work.
4. Only 6 per cent were inadequately restricted and were working beyond a safe level.

It can be seen that more careful determination of work ability was needed. It should be emphasized that the majority of persons with heart disease can be safely employed and productive.

All physicians placed in the position of evaluating a patient with heart disease should be acquainted with the pamphlet *Work Prescription for Heart Patients* developed by the Los Angeles County Heart Association. In essence this describes a technique to determine a safe prescription for work, with simple measures to be carried out in the physician's office. (The only unusual item of equipment needed is a single step, eight to nine inches high.) By application of this method, a physician can prevent many rehabilitation problems and the development of cardiac invalids. It must be emphasized that the physician contact the employer for discussion and for particular information regarding job requirements. The contact of the physician with the employer may frequently lead to better acceptance by the employer of the type of work the employee can do. A physician should make specific recommendations of the tasks the patient can carry out or the safe work level he can handle, but must recognize that the ultimate decision of reemployment must rest with the employer.

There should be no need to emphasize that a physician's moral responsibility is that of not only giving his patient the best treatment possible, but also assisting in any other appropriate fashion the patient's restoration to productive and economic levels consistent with the permanent limitations of his physical status.

The booklet referred to above can be obtained gratis from any local county unit of the California Heart Association, and use of its methods should result in a general improvement in appropriate medical decisions and in the patient's opportunity to return to gainful employment. Because of the magnitude of the problem of reemployment of persons with heart disease, the Committee on Occupational Health urges members of the California Medical Association encountering these problems to make every effort to improve the situation.

Committee on Occupational Health
California Medical Association

Comments and Questions Are Welcomed by the Committee

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* This is the ninth of a series of articles prepared by the Committee on Occupational Health.

12th ANNUAL

REGIONAL POSTGRADUATE INSTITUTE

SACRAMENTO VALLEY COUNTIES

Presented by Loma Linda University School of Medicine, W. F. Norwood, Ph.D., Assistant Dean and Chairman Department of Continuing Education, and California Medical Association Committee on Postgraduate Activities with Sacramento Valley Counties Medical Societies.

Guest Speaker: B. Marden Black, M.D., Professor of Surgery, University of Minnesota, Mayo Foundation.

Feather River Inn—Blairsden

June 21 and 22, 1962

PROGRAM

THURSDAY, JUNE 21

Morning Session

9:00-9:30—**"How I Do It" Clinic.**

9:30-10:15—**Approaching the Thyroid Nodule**—B. Marden Black, M.D.

10:15-11:00—**Exercises, Diets and Drugs in Atherosclerosis—(Calories Don't Count)**—John E. Peterson, M.D.

11:15-12:30—**Panel Discussions.**

Panel 1—**Vascular Headaches.**

Panel 2—**Differential Diagnosis of Peripheral Vascular Disease and Orthopedic Diseases of the Lower Extremities.**

Afternoon Session

2:00-2:40—**Management of the Surgical Patient with Diabetes—Pre and Postoperative**—Arthur J. Riesenfeld, M.D.

2:40-3:15—**Neck, Shoulder and Arm Pain**—Kenneth H. Abbott, M.D.

3:30-4:45—**Panel Discussions.**

Panel 1—**The Unconscious Patient with Abdominal Injuries.**

Panel 2—**Gynecological Endocrinology.**

Panel 3—**Early Diagnosis.**

FRIDAY, JUNE 22

Morning Sessions

8:30-9:30—**"How I Do It" Clinic.**

9:30-10:15—**New Developments in Recognition and Treatment of Hyperthyroidism**—B. Marden Black, M.D.

10:15-11:00—**Common Fractures, Dislocations and their Management**—Alonzo M. Neufeld, M.D.

11:15-12:30—**Panel Discussions.**

Panel 1—**Use and Abuse of Steroids.**

Panel 2—**Physical Fitness in the New Frontier.**

Afternoon Sessions

2:00-2:40—**Fetal Distress**—Edward H. G. Hon, M.D.

2:40-3:15—**Investigation and Management of Obscure Gastrointestinal Bleeding**—David B. Hinshaw, M.D.

3:30-4:30—**Plenary Session.**

HOST: Sacramento County Medical Society . . . **GENERAL CHAIRMAN:** Sherman DeVine, M.D., . . . **PROGRAM CHAIRMAN:** John Quinn, M.D. . . . **INSTITUTE FEE:** $15.00. For Registration and additional information contact Postgraduate Activities office, California Medical Association, 693 Sutter Street, San Francisco 2. **All California Medical Association members and their families are cordially invited to attend.**

Letters to the Editor...

The Oath of Hippocrates

THE OATH OF HIPPOCRATES has come under scrutiny as to its proper place in the expression of allegiance that a physician owes to his profession. According to a recent survey, the policy of medical schools varies from not administering the Oath at all, to making alterations which reflect a rather desperate attempt to secure a uniform modernity.

An attempt to modernize documents dealing with the responsibility of human beings toward each other should take into account the timelessness of the principles elaborated in the document. The Oath is the only ancient document in current use which specifically mentions the responsibility that one human being takes upon himself by possessing knowledge which gives him power over other human beings. The Ten Commandments and the Sermon on the Mount cover situations in which people are equally responsible to one another and to an elusive catch-all called God. The Magna Carta sets down limitations of the power that rulers may exert over the people whom they rule. Christ approached the principle of the Oath when he advocated the Golden Rule.

Efforts at modernizing ethical documents should acknowledge the value of a historical perspective in placing the date that these principles were given a compact organization of enduring significance. This aim is often best served by perpetuating the pronouncements of the document intact, even though some statements deal with situations that are hisorically remote from current customs.

One should be impressed that the type of allegiance embodied in the Oath is similar to that expressed in the highest Christian ideals. Significance should be attached to the fact that the Oath reflects a moral philosophy that preceded the definitive stand taken by Christ. The evolution of a social consciousness of this order of magnitude proceeds slowly. It is unlikely that Christian converts should have been made on a soil other than the kind so thoroughly prepared by the Greeks.

The Oath of Hippocrates should be revered as a labeled remnant of classical Greek culture. Beginning the Oath with the swearing by Apollo reminds the reader that the Oath originated in the pre-Christian world. Hippocrates lived about 400 B.C. and was roughly contemporary with the great names of the peak of Greek intellectual activity: The philosopher, Aristotle; the historian, Herodotus; and the playwright, Euripides.

The Oath gives succinct expression to the devotion to duty that the physician assumes in the therapy of his patients: "I will follow the method of treatment, which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous." The physician-patient relationship offers possibilities for constructive advancements which can have an immense impact on social welfare. The broad application of a principle learned from the physician-patient relationship was responsible for such discoveries as vaccination against smallpox and the antiseptic control of puerperal fever. Some of the warnings sounded against the increasing socialization of medicine are a reflection of the observation that stereotyped programs tend to remove conditions under which physicians take an optimum interest in individual patients. Individual interest serves not only to comfort the patient. It furnishes the very important soil on which original clinical discovery thrives.

The singular dedication to the patient's welfare as expounded in the Oath is explicitly stated in another writing of Hippocrates, the famous First Aphorism: "Life is short, and the Art long, the occasion fleeting, experience fallacious, and judgment difficult. The physician must not only be prepared to do what is right himself, but also to make the patient, attendants, and externals cooperate."

The principle outlined in the Oath of Hippocrates as narrowed down in the First Aphorism may be of tremendous importance to our perilous times. An immediate solution to human problems could reverse the ominous threat of war in the direction of peace. The secret must be locked somewhere within man's biology. Explanations of puzzling human behavior come within the range of the probings of the conscientious physician, who is prepared to look upon each patient as a special and important subject, and who is willing to accept the whole of life as his laboratory. Recalling the contribution of Jenner in the vaccination against smallpox, it is conceivable that one physician, standing firmly upon the foundation of Hippocrates, and insisting upon proper treatment for a single patient, could launch a scientific investigation which would bring about the greatest social upheaval that the world has ever known. The mess that the world is in calls for something of the sort. Such being a requirement of the foreseeable future, we'd best not regard Hippocrates nor his Oath lightly.

The foregoing emphasis on a few salient features of the Oath should impress the reader that an hour devoted to the administering of the Oath of Hippocrates at the completion of the formal medical training is an hour which is worthily appropriated. For, it is an hour which should ever after serve as a reminder that the concern and responsibility of one human being over the welfare of other human beings preoccupied the thinkers of the Periclean age of Greece just as much as it does the moral philosophers of today.

MARSEILLE SPETZ, M.D.

1655 Buttermilk Lane
Arcata, California

May 14, 1962

Hysterectomy

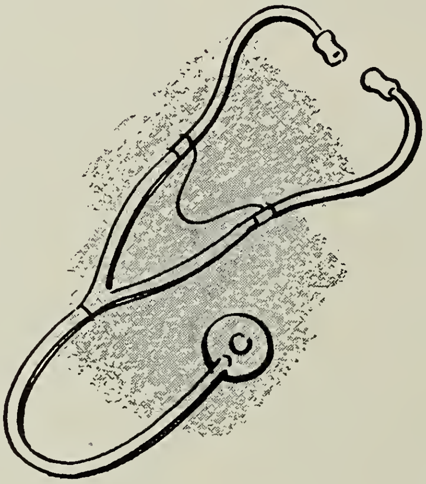
. . . REGARDING the article "Reflections on Hysterectomy" in the February issue of CALIFORNIA MEDICINE [Chairman's address before the Section on Obstetrics and Gynecology at the 1961 Annual Session]: The author gives undue encouragement to those whose untempered judgment may incline toward needless or to premature operation.

Abnormalities of bleeding which cause serious disability are not as frequent as the article suggests. Neither ". . . menorrhagia or dysmenorrhea sufficient to interfere with the patient's enjoyment of life," nor "worrisomeness," nor the presence of a uterine fibroid, nor a greatly extended point of view of "prophylactic value" are in themselves indications for major excisional surgery. Such criteria lead to uncritical overenthusiastic operation and to an inevitable and justifiable reaction on the part of the public and its writers.

Contrary to the author's opinion, hysterectomy *should* be deplored "unless there is no other method of handling the problem at hand."

SANFORD E. FELDMAN, M.D.

San Francisco



NEWS & NOTES

NATIONAL · STATE · COUNTY

ALAMEDA

Dr. John G. Morrison, Oakland, was unanimously re-elected as chairman of the board of trustees of California Physicians' Service-Blue Shield at the organization's meeting last month.

Other officers elected to head the statewide medical care plan were Dr. Paul I. Hoagland, Pasadena, vice-chairman; Dr. Burt L. Davis, Palo Alto, secretary; Dr. John E. Vaughan, Bakersfield, assistant secretary; Dr. Angus C. McDonald, Huntington Park, treasurer; and John W. Cowee, Berkeley, assistant treasurer. Dr. Cowee is dean of the University of California School of Business Administration.

* * *

Dr. H. Gordon MacLean, president of Blue Cross in Northern California for 20 years, retired from that position at the end of April. Mr. George U. Wood was elected to succeed him.

Dr. McLean, a former president of the California Medical Association, was one of the health plan's founders in 1937. He will continue to serve as a member of the board of directors.

Mr. Wood, executive vice-president of Peralta Hospital, Oakland, becomes the fourth president in the history of the organization. Also a founder of Blue Cross, Mr. Wood has served as a member of the board of directors for more than 23 years.

LOS ANGELES

Dr. Thomas H. Brem, head of the department of medicine at the University of Southern California School of Medicine, has been elected to membership in the Association of American Physicians.

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The University of Southern California Medical School Department of Psychiatry has been awarded a National Institute of Mental Health grant of $10,000 per annum to be applied to appropriate orientation and **training in child psychiatry** for a pediatrician who has been out of medical school at least five years. Applications are being invited. The next vacancy will be July 1, 1963 and the appointment is for one year. **Deadline for applications** for the next appointment is November 1, 1962. They may be addressed to Dr. Joseph D. Teicher, Director, Children's Psychiatric Services, U.S.C. School of Medicine, 2025 Zonal Avenue, Los Angeles 23.

The facilities used are those of the Los Angeles County General Hospital Child Psychiatry Service which has both an in-patient and out-patient service.

RIVERSIDE

Dr. Donald H. Abbott of Riverside has been appointed to the California State Board of Medical Examiners by Governor Edmund G. Brown. He succeeds Dr. James F. Regan, Glendale, whose term expired.

SANTA CLARA

Dr. Don D. Jackson, director of the Palo Alto Medical Research Foundation's Mental Research Institute, and research associate Gregory Bateson were presented the Frieda Fromm-Reichmann Award at the Academy's recent annual meeting in Toronto. The Award, established in 1959, is given annually for "the most significant contribution to the study of schizophrenia."

Dr. Jackson is chief of psychiatry, Palo Alto Medical Clinic, and clinical assistant professor, department of psychiatry, Stanford University School of Medicine; Bateson is visiting professor of anthropology, Stanford University.

TEHAMA

Dr. Carl Reichman recently was named to replace Dr. Lynn E. Wolfe, Jr., as part-time **health officer of Tehama County.** The county contracts with the State Department of Public Health for basic public health services.

GENERAL

At the April meeting of the California Chapter of the **American College of Chest Physicians,** held in San Francisco, the following officers were elected: President, Dr. Francis J. Curry, San Francisco; vice-president, Dr. Donald F. Rowles, Palo Alto; secretary-treasurer, Dr. Homer D. Peabody, Jr., San Diego.

* * *

An annual **course in postgraduate gastroenterology** of the American College of Gastroenterology will be given at the Morrison Hotel in Chicago, November 1, 2, 3. The moderators for the course will be Dr. Owen H. Wangensteen, chairman and head of the department of surgery of the University of Minnesota School of Medicine, and Dr. I. Snapper, director of medical education, Beth-El Hospital, Brooklyn, New York.

Further information may be obtained from the American College of Gastroenterology, 33 West 60th Street, New York 23, New York.

THE PHYSICIAN'S *Bookshelf*

THALASSEMIA—A Survey of Some Aspects—Robin M. Bannerman, M.A., D.M., M.R.C.P., Lecturer in Medicine, The Nuffield Department of Clinical Medicine, The Radcliffe Infirmary, Oxford, England. (Modern Medical Monographs—23—Editor in Chief: Irving S. Wright, M.D., Consulting Editor: Richard H. Orr, M.D.). Grune & Stratton, 381 Park Avenue South, New York 16, N. Y., 1962. 138 pages, $6.50.

This monograph lays no claim to providing a complete or compendious review of thalassemia, the syndrome of defective erythropoiesis originally named because of its prevalence in certain regions in or bordering the Mediterranean Sea, but now recognized as having much wider distribution. However, highlights of the historical aspects, genetics and population dynamics, clinical and hematological features, the interactions of thalassemia with other normal and pathological hemoglobin types, the heterogeneous mutants capable of giving rise to different varieties of thalassemia, and possible pathogenetic mechanisms are integrated in a concise and provocative manner. Normal and abnormal heme and hemoglobin synthesis are reviewed together with known facts of iron and hemoglobin metabolism in thalassemia. The bibliography of 375 references is valuable and is well chosen. The index is not as complete as it might be but is reasonably adequate. As mentioned in the preface to the volume, thalassemia presents puzzles of interest to many different disciplines. While perhaps not sufficiently detailed to satisfy the biochemist, geneticist, epidemiologist, geographer, or historian individually, this small volume brings together important aspects of these facets of the problem along with clinical and hematological features, and will be a welcome addition to the library of the hematologist, pediatrician, internist, or generalist.

William N. Valentine, M.D.

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FUNDAMENTAL APPROACH TO SURGICAL PROBLEMS—Lester F. Williams, Jr., M.D., and Garnet F. Wynne, Jr., M.D. With an Introductory Chapter by Warner F. Bowers, M.S., M.D., Ph.D., Colonel, MC, USA (Retired). Charles C. Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Ill., 1962. 216 pages, $7.75.

This book entitled Fundamental Approach to Surgical Problems was conceived and dedicated "To those men who must know why and are not satisfied with only knowing how, etc." With noble purpose in mind, the author has attempted to gather together in a short digestible book, the basic information and physiological background of surgery. Unfortunately, the books falls far short of its purpose, for it is too simple in concept, too narrow in scope, and too meager in basic information.

The subject matter covers such topics as "wound healing," "body response to trauma," "hemorrhage," "surgical infections," "fluid and electrolyte balance," "preoperative evaluation," and "postoperative care." The information presented is thoughtful, clearly expressed and well organized, but it is far too superficial and simple in its exposition. In attempting to avoid the fallacy of using "big words to cover lack of basic comprehension" and "the necessity to be humble in our continuing quest for wisdom," the enlightened surgical reader is not rewarded with the depth of comprehension and understanding required in the majority of surgical problems.

Some sections of the book are quite good, but in general it is a book for beginning medical students and nurses, not for interns, house officers, general practitioners, or specialists in surgery.

Victor Richards, M.D.

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CARCINOMA OF THE CERVIX—John B. Graham, M.D., Chief Gynecologist, Roswell Park Memorial Institute, and Associate Professor of Gynecology, University of Buffalo Medical School; Luciano S. J. Sotto, M.D., Consultant in Gynecology, Philippine General Hospital, and and Instructor in Gynecology, University of the Philippines College of Medicine; and Frank P. Paloucek, M.D., Attending Gynecologist, Roswell Park Memorial Institute, and Instructor in Gynecology, University of Buffalo Medical School. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1962. 487 pages, $14.00.

This monograph is devoted exclusively to the subject of carcinoma of the cervix uteri, and, in the words of the author it is "a selective collection of accumulated information of the past tempered by personal experience." Its authoritative status is attested by the fact that the senior writer has contributed to many valuable studies of the subject which have emanated from Boston and Buffalo.

The book begins with an accumulation of data relating to the frequency of this disease and its etiology, and a somewhat cursory discussion of its pathology. Carcinoma in situ and "other borderline lesions" are given attention in one chapter. The authors do not believe that "anaplasia" is frequently followed by malignancy and "can be safely observed."

Prognosis is given a great deal of attention, although only a few pages are devoted to cytologic prognosis. This is disappointing in view of Graham's contributions to the subject. Clinical staging is taken up at great length and covers over thirty pages.

Treatment in its various aspects is considered in over two hundred pages, approximately half the volume. Both radiotherapy and surgical treatment are given in detail, and there is adequate discussion of the complications which may ensue from either of these procedures. The place of treatment by radiation and that by surgical measures is ably evaluated. The authors have no ax to grind and present a sound basis for their application.

This book is recommended for gynecologists and radiologists who treat carcinoma of the cervix. It is a fine volume well up to the standards one expects from the publisher. There are numerous illustrations which are excellently reproduced. The total of 152 tables attest to the vast amount of factual data which has been collected on every phase of the subject.

THE STAGES OF HUMAN DEVELOPMENT BEFORE BIRTH—An Introduction to Human Embryology—E. Blechschmidt, M.D., Professor of Anatomy, Director of the Institute of Anatomy, University of Göttingen. W. B. Saunders Company, Philadelphia, Pa., 1961. 684 pages, $23.00.

It would be helpful if it had been made clear in the title that this book is an atlas and not a textbook. It is not until one reads the preface that he learns that the book is an atlas. The use of the term "stages" in the title is also open to some criticism. The author has illustrated a selected series of embryos and fetuses, but these are not stages in the sense that this term is used for the developing chick, or as it has been used in connection with Streeter's development horizons.

The 579 illustrations include photographs, photomicrographs, drawings of entire specimens, drawings of dissections, and drawings of reconstructions. They are located on the right hand page facing the viewer and are labelled by numbers. The left hand page has two columns. The left column contains a brief discussion of the illustration in German, and the right column an English translation of this discussion. The structures indicated by the numbers on the illustration are listed toward the bottom of the left hand page.

Most of the illustrations are excellent and they are adequately labelled. They are reproduced upon paper that is not glossy, and yet they are clear and sharp.

The contents are divided into three main parts: The period of the ovum, the period of the embryo (including fetus), and the regions of the body including the organs in these regions. Some of the illustrations have been borrowed, but appropriate credit is given to their source.

Although the author states that the Paris nomenclature has been used, the labels and descriptions include such older terms as vas deferens, Wolffian duct, adrenal gland, and lumbodorsal fascia. Some readers, who appreciate the great variation in crown-rump length of embryos of the same age, may wonder why the lengths of some embryos were given with such exactness as ca. 3.4 mm., 4.2 mm., 6.3 mm.. and 6.64 mm.

Not all embryologists will agree with the author's interpretation of various developmental processes. However, both students and teachers of embryology will profit by having available the large number of well selected illustrations found in this atlas.

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DIAGNOSIS AND THERAPY OF THE GLAUCOMAS—Bernard Becker, M.D., Professor and Head of the Department of Ophthalmology, Washington University School of Medicine, St. Louis, Mo.; and Robert N. Shaffer, M.D., F.A.C.S., Associate Professor of Ophthalmology, University of California School of Medicine, San Francisco, Calif. The C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, Missouri, 1961. 360 pages, $18.00.

During the last 15 years the entire concept of the diagnosis and treatment of glaucoma has changed a great deal. It is therefore timely that a book appear that is based on this new concept. Among those who have had an active part in bringing about these changes in the field of glaucoma are Becker and Shaffer, so that they, therefore, are well qualified as authors of this book.

The book is divided into eight sections including the subjects of classification, gonioscopy, tonometry and tonography, ophthalmoscopy and perimetry, surgical techniques together with an appendix which includes tables for tonography and tonometry and some excellent examples of tonograms accompanied by the case history. At the end of each section is a bibliography. Also helpful is the section heading in the upper lefthand corner of each page with the righthand page corner containing the chapter heading. This is very helpful for rapid reference work.

Two relatively new developments in the field of glaucoma are gonioscopy and tonography.

The section on gonioscopy describes the method of gonioscopy which is illustrated by excellent photographs. After describing the gonioscopic and microscopic anatomy of the anterior chamber angle, the clinical interpretation of the findings is discussed.

In the section on tonometry and tonography, the intraocular pressure and outflow facilities are well covered, and the clinical application of this new work is described.

The section on surgery in glaucoma is well described with good illustrations and a text that can be easily followed. This section also covers the pre- and postoperative care, including the directions to be given to the patient. The chapter on reoperation presents some practical advice in those cases where the original surgery fails.

While the book, as stated by the authors, is based on the work of many scientists and clinicians, it is a concise treatise on the present-day knowledge of glaucoma presented in a practical way that is easily understood by the practicing clinician. It is an excellent office reference.

The illustrations, both line drawings and photographs are outstanding and are beautifully reproduced. The five excellent color plates add greatly to the book. The general format is excellent; the quality of the paper and the type are outstanding and the index is unusually good.

The book is recommended as a must for every practicing ophthalmologist as a handy office reference.

Frederick C. Cordes, M.D.

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PATHOLOGIC PHYSIOLOGY—Mechanisms of Disease —Third Edition—Edited by William A. Sodeman, M.D., Sc.D., F.A.C.P., Dean and Professor of Medicine, Jefferson Medical College. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1961. 1182 pages, $15.00.

This book gathers together a tremendous amount of normal and pathologic physiology. In explaining the clinical aspects of the physiology concerned it also includes a fair amount of symptomatology and some therapy, based on physiological principles.

Pathologic physiologic disturbances in the body represent the mechanisms whereby etiologic agents effect their damage, i.e., the reaction pattern between causative factors and the body itself. The unraveling of the pathologic physiology and the understanding of the process can direct the approach to control and treatment. And only through an understanding of the impact of the etiological factors of disease on the host can the mechanisms of disease be understood.

The third edition of this text has improved considerably on its earlier efforts. It now comprises 1182 pages with 31 chapters. The contents begin with a general description of pathologic physiology. The arrangement then proceeds through a series of chapters on Genetics and Disease, Metabolism and the Endocrine Glands, Infections and Allergy, and Physical, Toxic and Chemical Agents, before going on to chapters concerned with the usual system structure.

Reading this book makes understandable and correlates the mechanisms of individual diseases and syndromes, as well as the physiology of the body as a whole. This reviewer found the chapters on the Endocrine Glands, Digestive System and Respiratory System of particular interest. It is recommended to academically and scientifically minded physicians in practice as well as to those in training.

Edgar Wayburn, M.D.

OPHTHALMIC PATHOLOGY—An Atlas and Textbook —Second Edition—Edited by Michael J. Hogan, M.D., Professor and Chairman, Department of Ophthalmology, University of California School of Medicine, San Francisco; and Lorenz E. Zimmerman, M.D., Chief of the Ophthalmic Pathology Branch and Registrar of the Registry of Ophthalmic Pathology, The Armed Forces Institute of Pathology, Washington, D. C. Published under the Sponsorship of the American Academy of Ophthalmology and Otolaryngology and the Armed Forces Institute of Pathology. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1962. 797 pages, $30.00.

The first edition of this book was published in 1952 as a cooperative effort by the American Academy of Ophthalmology and Otolaryngology and the Armed Forces Institute of Pathology. It was under the editorship of Dr. Jonas Freidenwald and was very well received so that the edition was soon sold out. In 1956, work was started on the second edition which has been published under the editorship of Michael J. Hogan, M.D., and Lorenz E. Simmerman, M.D. It is again sponsored by the same agencies, and, in addition to the editors, contains contributions from many distinguished collaborators.

The revision of the text is so extensive that it is practically a new book and reverts to the anatomical method of discussing and describing pathological changes of the eye. One of the outstanding features of the first edition was the group of illustrations selected and prepared by Mrs. Helenor Campbell Foerster. These, for the most part, have been retained in this edition together with many new illustrations. The greatly increased text and its closer correlation with the illustrations has added greatly to the usability of the book.

The text is divided into the following chapters: General Pathology, Diffuse Ocular Disease and Its Sequelae, Injury to the Eye, Lens and Lacrimal Apparatus, Conjunctiva, The Cornea and Sclera, The Uveal Tract, Retina, Optic Nerve, Vitreous, Diseases of the Lens, Glaucoma and The Orbit.

The book is by far the most outstanding modern text on ocular pathology, and while it is intended primarily as a textbook for the resident in ophthalmology or pathology, as pointed out by Dr. Townsend in the foreword, it also serves as a reference book for the general hospital pathologist.

The general format is outstanding, the paper of excellent quality, the printing very readable, and the illustrations superb. The bibliography is excellent and the index seems adequate. One wonders, however, whether the binding will stand up under use.

The book is highly recommended.

Frederick C. Cordes, M.D.

* * *

FORENSIC MEDICINE—Fourth Edition—Keith Simpson, M.D. (Lond.), Reader in Forensic Medicine to the University of London at Guy's Hospital, London. Edward Arnold (Publishers) Ltd., London, distributed by The Williams & Wilkins Co., Baltimore, exclusive U. S. agents, 1961. 355 pages, $7.50.

Those who have the book need not concern themselves about purchasing a new edition. Those who do not have the book, yet having interest in an elementary volume on forensic medicine, suitable to easy reference when not requiring but the most superficial understanding, will find the book useful.

For one who does not contemplate actually undertaking forensic medical work, but wants an easy reference source, the book suits admirably. For the pathologist, or even the general practitioner who may investigate scenes of death for forensic medical purposes, or who may undertake medicolegal autopsies, a more comprehensive volume would be more suitable.

As far as the American reader is concerned, it is a misrepresentation to call the new printing a "new edition." It is, in fact, a re-printing. Page by page comparison shows that in the entire book only several paragraphs have been added quoting recent changes in the British law relative to certification of mental cases and poison laws. These are hardly of significance to the American reader, and indeed the British equivalent of $7.50 is a considerable price for a British reader to pay to learn the content of the "several paragraphs."

Being interested in forensic medicine, and therefore of suspicious nature, the reviewer believes that except for three or four pages, the exact plates from which the previous edition was printed were now used again. Incomplete letters suggesting broken type are identical in both "editions," throughout.

* * *

CONTROL OF THE MIND—Man and Civilization—A symposium edited by Seymour M. Farber and Roger H. L. Wilson, University of California, San Francisco Medical Center. McGraw-Hill Paperback Series, McGraw-Hill Book Co., 330 W. 42nd Street, New York 36, N. Y., 1961. 340 pages, $2.95.

In the current struggle between communism and the free world, no aspect has been more frightening than that involved in the control of one man's mind over another. Fortunately this fear has also evoked a considerable scientific investigation into the procedures involved in such controlling mechanisms as well as the structure and function of the mind itself. The latter is a very proper medical function but the overall subject involves many nonmedical authorities whose knowledge needs integration with physicians as they study the work-a-day operation of the mind.

It is to the credit of the University of California Medical School that the symposium described in this book was arranged. The report of this first symposium presents a host of learned individuals offering material pertinent to their fields. It is divided into four general categories. The first concerns the brain and its function in which Drs. Penfield, Hyden and Hebb described the physiological and psychological basis of brain activity. This section was concluded by an outstanding essay on human potentialities by Aldous Huxley.

The second section with such speakers as Drs. Kety, James Miller and Jonathan Cole discusses the growing interest and importance of drugs on the individual. From that point the symposium moved to two final sections, the one concerning the mind and society and the second the impact of technology on the mind.

What makes this compilation most valuable is that not only are the complete papers presented but following each section there is a transcript of a panel discussion between the members of that particular section. These transcripts include questions from the audience with the answers of the panelists, and are outstanding in their quality and readability. Finally an overall discussion on the two topics of restriction of the mind and freedom of the mind serves to summarize and organize the material of this three-day symposium.

Unlike other projects concerned with the relation of individuals to society this one was conducted on a very high scientific plane and yet in a most understandable frame of presentation. It is not surprising that a second symposium on this topic has already occurred since the product, as demonstrated in this book, is a substantial contribution to integrated learning on a subject that is of serious concern to all of us at the present stage in world history.

Henry H. Work, M.D.

EARLY DETECTION AND DIAGNOSIS OF CANCER—Walter E. O'Donnell, M.D., Visiting Investigator, Sloan-Kettering Institute for Cancer Research, New York, N. Y.; former Assistant Director, Strang Cancer Prevention Clinic, Memorial Hospital for Cancer and Allied Diseases, New York, N. Y.; Emerson Day, M.D., F.A.C.P., Director, Strang Cancer Prevention Clinic, Memorial Hospital for Cancer and Allied Diseases, New York, N. Y.; and Louis Venet, M.D., F.A.C.S., Associate Director, Strang Cancer Prevention Clinic, Memorial Hospital for Cancer and Allied Diseases, New York, N. Y. Drawings by Shirley Baty, Supervisor, Medical Illustration Department, Memorial Hospital for Cancer and Allied Diseases, New York, N. Y. The C. V. Mosby Company, St. Louis, Mo., 1962. 286 pages, with 82 figures and 3 color plates, $12.00.

This is a well printed and well illustrated monograph dealing with the important problem of detection and diagnosis of cancer. It is divided into 11 chapters. The first deals with the cancer problem in general, the second with the so-called cancer detection examination, and the remainder with cancer in specific anatomic sites such as skin, head and neck, lung, breast, and so forth.

Most of the procedures recommended are familiar to every practicing physician, but some of them (for example, those dealing with bronchial and gastric carcinoma) exceed practical considerations for the average physician's office. Others will benefit physicians who do not routinely use or consider the multiple procedures recommended.

"Human cancer, starting from a single cell, could grow for many years without detection," says Warren Cole in a recent interview. Experienced physicians know that the silent or apparent latent phase of many human cancers is a matter of many years. The most familiar example of this is intraepithelial carcinoma of the cervix uteri which apparently oscillates for an average period of about a decade before becoming invasive. The use, therefore, of the word "early" for many of the paragraphs in this work may be questioned. It would be preferable to use the term "apparently localized," especially since patients may be misled by the apparent virtues of detecting small but biologically incurable cancer in such sites as esophagus, stomach and prostate.

The authors recommend that patients for cancer detection examination be males over 45 and females over 30. Except perhaps for cervical cytology smears, the latter recommendation may be regarded as rather impractical.

Table 1 consists of an enormous collection of "premalignant conditions" including burn scars, gastric ulcer, cystic mastitis and thyroid adenomas. There is considerable pathologic opinion questioning the term premalignant in connection with these benign lesions and furthermore, the authors do not indicate clearly that even if some of them are premalignant, the proportion is a fraction of a per cent.

The old classification of larynx cancer into intrinsic and extrinsic, rather than the modern one of supraglottic, glottic and subglottic is employed in chapter 4.

The authors straddle the difficult problem of the inconsistency between the high frequency of benign colon polypoid adenomas and the comparative infrequency of colon polypoid carcinomas. For example, on page 210 they write "Most, but not all cancers of the rectum and colon arise from preexisting benign polyps." Four lines later they write "Not all, perhaps not even the majority of polyps become cancer." This merely adds to existing confusion. Similarly, in the section dealing with prostatic cancer, they note that "From 14 to 46 per cent of all males over age 50 have microscopic evidence of cancer of the prostate . . . Will any such foci become significant?"

To be of benefit to the practicing physician it would have been preferable for a majority opinion on these difficult questions to have been reached prior to publication. Furthermore, there is an astonishing absence of reference to the complications, both physical and psychologic, of false diagnoses of cancer, and of diagnostic procedures required to validate some suspected tumors. The fear engendered by telling persons that they have precancerous lesions when a small keratosis is present on the forehead or a small lump is present in one lobe of the thyroid (and has been there for 25 years) is not stressed. The morbidity and mortality of thoracotomy, laparotomy and other procedures for the validation of diagnosis of some internal cancers is glossed over. As Minckler has observed "Sometimes early diagnosis (for example in occult carcinoma of the prostate) results in medical interference both unnecessary and unpleasant . . . such as possible castration of 40 per cent of all aged males."

Cancer examinations in persons motivated to pay prompt attention to the physician's advice are certainly of potential value. The cancer yield will be nominal, but the psychotherapeutic benefit for the apparently negative cases will be great. The truth remains however, that cancer is one of the diseases which must be prevented. If we wait for diagnosis, at least for most tumors of the nonaccessible sites, it is usually too late. We must be frank as to our limitations in the value of cancer detection, diagnosis and treatment.

L. HENRY GARLAND, M.D.

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SCIENCE OF DREAMS, THE—Edwin Diamond. Doubleday and Company, Inc., 575 Madison Avenue, New York 22, New York, 1962. 264 pages, $4.50.

The author of this book was formerly science editor of *Newsweek* and according to the book jacket, is at present a general editor of that magazine.

The book represents the work of a well-trained reporter who has interested himself in science. It appears that the book was written for the general public, but it is probable that many physicians would find useful information regarding the subject of dreams in this volume. Included in the contents is a brief historical statement concerning the interest of people in dreams since the earliest times. This is followed by an account of Freud's work on dreams, together with an interesting description of the ideas of some North American Indians, the Iroquois, concerning dreams. Mr. Diamond describes some of the experimental work on dreams of the past 10 years which grew out of the research of Professor Nathaniel Kleitman. In this section he has provided an interesting account of the work done by various investigators utilizing the EEG and especially the recording of rapid eye movements while dreaming.

While the book has little to offer the expert, it provides an accurate, though relatively superficial, discussion of the form of thinking called dreaming.

CHARLES W. TIDD, M.D.

* * *

PHYSICAL DIAGNOSIS—Sixth Edition, Illustrated—Ralph H. Major, M.D., Professor of Medicine and of the History of Medicine, and Mahlon H. Delp, M.D., Professor of Medicine, The University of Kansas. W. B. Saunders Company, Philadelphia, Pa., 1962. 355 pages, $7.50.

The authors of this sixth edition of Physical Diagnosis have been very successful in giving the "new look" to this rewritten textbook.

Much of historical interest remains both in the text and among the many illustrations. Much has been added from recent studies to better correlate physical signs with physiological mechanisms particularly in cardiovascular diseases. A welcome feature is the faithful adherence to the subject of Physical Diagnosis, avoiding excursions into other fields of clinical interest. An excellent bibliography is appended to each chapter.

The book can be recommended to medical students and all others who examine patients.

CLAYTON D. MOTE, M.D.

HYPERTENSION—RECENT ADVANCES—The Second Hahnemann Symposium on Hypertensive Disease—Edited by Albert N. Brest, M.D., Assistant Professor of Medicine and Head, Section of Hypertension and Renology, Hahnemann Medical College and Hospital, Philadelphia, Pa., and John H. Moyer, M.D., Professor and Chairman of The Department of Medicine, Hahnemann Medical College and Hospital, Philadelphia. Lea & Febiger, 600 Washington Square, Philadelphia 6, Pa., 1961. 660 pages, $12.00.

This collection of succinct presentations by prominent experts in the disciplines related to hypertension is aimed at the internist who wants to keep abreast of the current developments in the basic pathophysiology, diagnosis, management and prognosis of hypertension.

An introductory section on the definition of the term "hypertension" and the natural history of the disease is followed by a section dealing with the known and theorized etiologic mechanisms: Adrenal cortical, neurogenic, psychogenic and renal. Renal mechanisms are discussed at greater length, including newer methods for diagnosis and management.

The pharmacology, physiologic effects and clinical use of the various agents which lower the blood pressure are briefly presented, illustrated by individual case histories. There follows an excellent series of presentations on the metabolism and pharmacology of the catecholamines. These papers highlight the recent insight into the formation, mode of action, and breakdown of the pressor amines acting both centrally and in peripheral ganglia and nerve endings, and the application of pharmacologic interference with these processes to the therapy of hypertension. Finally the rationale for treating and several methods for clinical management of hypertension are outlined with practical considerations for acute and chronic, mild and severe forms of various etiology.

Each article is followed by a pertinent bibliography, and each section is followed by a discussion in which the preceding speakers raise and discuss problems among themselves.

It has been two years since the First Hahnemann Symposium on Hypertension, and the two volumes together provide the practicing internist with an excellent solid basis for the understanding and management of hypertension.

DOROTHEE PERLOFF, M.D.

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THORACIC DISEASES—Emphasizing Cardiopulmonary Relationships—Eli H. Rubin, M.D., F.A.C.P., F.C.C.P., Professor of Clinical Medicine, Albert Einstein College of Medicine, Yeshiva University; Attending Physician, Pulmonary Division, Montefiore Hospital; and Morris Rubin, M.D., F.A.C.S., F.C.C.P., Associate Clinical Professor, Thoracic Surgery, Albert Einstein College of Medicine, Yeshiva University; Director, Cardiac and Thoracic Surgery, Morrisania City Hospital. In association with George C. Leiner, M.D., F.A.C.P., F.A.C.C., Lecturer in Medicine, and Doris J. W. Escher, M.D., Lecturer in Medicine, both from Columbia University, College of Physicians and Surgeons. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1961. 968 pages, $25.00.

This book is the best and most complete survey of diseases occurring within the thorax that has been written. The material is well organized and concisely written. The initial section correlates the chest x-ray findings with the normal and pathological anatomy. Then pathophysiological changes that occur in the lungs as the result of these diseases affecting the cardiovascular or pulmonary system are uniquely presented. In this regard, however, it seems unnecessary to be so detailed in the actual technic of cardiac catheterization or pulmonary function testing. The sections on tuberculosis or intrathoracic tumors, especially bronchogenic carcinoma, rightfully receive greater emphasis. However, all thoracic disease processes are well covered. Cardiovascular diseases, congenital or acquired, are briefly presented, but only as they might alter normal cardiopulmonary function. Of interest to the pediatrician should be the section on thoracic diseases in the young. While not complete, it is an attempt to present the material in an orderly fashion.

The broad generalized approach, along with the complete current bibliography, should make this book ideal as a reference source in this field. It should be of interest to all medical students and doctors, but especially to those interested in medical chest diseases.

* * *

TROPICAL RADIOLOGY—Howard Middlemiss, M.D., F.F.R., D.M.R.D., Director of Radiology, United Bristol Hospitals; Head of Department of Radiodiagnosis, University of Bristol. Intercontinental Medical Book Corporation, 381 Fourth Avenue, New York 16, N. Y., 1962. 272 pages, $10.00.

In this volume on "Tropical Radiology" the author has collected considerable valuable material for the physicians who practice in tropical and subtropical countries. It should also be of interest to every radiologist since many diseases, primarily tropical, are now carried around the globe by travellers, exchange students, the armed forces, and I presume eventually by the Peace Corps.

Middlemiss had eleven physicians from various tropical countries contribute, each covering his particular field of interest and geographical area. Fortunately they all wrote concisely and clearly. The text facilitates satisfactory differential diagnosis. The book has many excellent illustrations, with only one upside down (page 162).

As Middlemiss notes in the preface, most radiology in the tropics is conventional, but tropical diseases, parasites, various hemoglobinopathies, dietary deficiencies and specific neoplasms are endemic. Also the usual temperate zone diseases may present in a more advanced or florid form either from lack of resistance, poor hygienic conditions or delay in diagnosis due to fear or ignorance.

In addition to the radiological changes, all chapters cover the major geographical distribution of the disease, the clinical features, pathogenesis and differential diagnosis. There are short chapters on types of neoplasms as found in east and west Africa and in Hong Kong.

It should be a worthwhile addition to the library of any physician in the tropics or subtropics, and is certainly interesting reading for radiologists.

M. E. MOTTRAM, M.D.

* * *

MILIEU THERAPY IN SCHIZOPHRENIA—Lieutenant Colonel Kenneth L. Artiss, MC. Foreword by Dexter M. Bullard, M.D. Introduction by David McK. Rioch, M.D. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1962. 169 pages, $6.00.

This small, easily read book describing milieu therapy on schizophrenic reactions provides poignant glimpses of the qualities of interpersonal operations which seems to be of considerable use to schizophrenic patients.

The book has a good bibliography. The briefness of the index represents the anecdotal quality of presentation which tempts the reader to seek more information than is presented in the book.

The book itself is not very well organized in that the logical development of the milieu and of the ideas pervasive in the milieu are difficult to comprehend.

In spite of these shortcomings, it is an interesting, worthwhile book which ideally should be expanded in detail and organization which should provide an interesting reference source for libraries associated with hospitals or day centers who concern themselves with the schizophrenic patient.

WAYNE E. JACOBSON, M.D.

ESSENTIALS OF NEUROSURGERY FOR STUDENTS AND PRACTITIONERS—Sean Mullan, M.D., Associate Professor of Neurosurgery, The University of Chicago. Springer Publishing Company, Inc., 44 East 23rd St., New York 10, N. Y., 1961. 273 pages, $6.75.

Doctor Mullan calls his monograph "The Essentials of Neurosurgery." Almost as an afterthought, though, and in small type we see "For Students and Practitioners." This title in itself opens up broad semantic potential and, taken at its face value, the author must concede that the adjective "abridged" might well have been appended for, compact as it is, who would not agree that in 273 pages even a gifted Irishman would have difficulty in relating all of neurosurgery that was "essential" to otherwise unqualified "students and practitioners."

Taken as an abridged and pleasantly readable summary of the present status of neurological surgery which, as a scientific tome is adequate to its intent, the book will satisfy without doubt a demand for a digest of information by undergraduate and a certain number of graduate students of medicine, including for one reason or another, a number of men who are actively in the practice of medicine and who want to have a modicum of reasonably reliable information, pleasantly assembled, to afford them a favorable position as they see individuals with potential problems demanding the care of a neurological surgeon.

In condensing the material available to him, there has been of necessity an occasional license with respect to fact, theories or moot subjects, these being put forth without qualification as having been reliably established. If the limitations which are unavoidable are acknowledged, these relatively minor divergences from hard core science will probably do no harm. The book is apparently not intended as a text, or even as an intensive review. Its reader can consider himself, though, pleasantly informed.

In addition to its admirable readibility, there is an attractive array of simple line drawings which are valuably supplementary when words do not easily come or would require such numbers as to interrupt the train of narrative. The few x-ray films and the illustrations of microscopic pathology included are well enough reproduced.

For those who desire a pleasant, if not a profound refresher in neurosurgery, the book is recommended.

Edwin B. Boldrey, M.D.

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SYMPTOM DIAGNOSIS—Fifth Edition—Wallace Mason Yater, A.B., M.D., M.S. (in Med.), F.A.C.P., Director, Yater Clinic, Washington, D. C. Formerly Professor of Medicine and Director of the Department of Medicine, Georgetown University School of Medicine; and William Francis Oliver, B.S., M.D., F.A.C.P., Assistant Clinical Professor of Medicine, University of Southern California School of Medicine; Consultant, Santa Barbara General Hospital. Appleton-Century-Crofts, Inc., 32 W. 32nd St., New York 1, N. Y. 1035 pages, $15.00.

The role of symptoms in disease is complex. They are, of course, the cause of the patient coming to the physician, but they are rarely found as single disease tip-offs. As a rule, it is the combination or the development of symptoms which leads to the diagnosis in a given case.

As symptoms are presented to or discovered by the doctor, he will automatically have a flashback of some of the diseases in which they occur. When he reviews the differential diagnosis in the textbook he may very likely find that his memory is inadequate. He may wish that he had another type of reference—ready yet encompassing—to consult while the patient is still in the office. This is what the authors have attempted to supply. Their purpose is three fold: (1) To aid the physician in diagnosis by allowing him to reduce the number of diagnostic possibilities to a relatively small list; (2) to prevent oversight of important considerations; (3) to make him more observant of the characteristics of the symptoms of disease. Practicability is the objective; conciseness, arrangement and authenticity the main features.

The fifth edition has been expanded to over 1,000 pages and extensively rewritten. The contents are divided into general symptoms and regional symptoms (of some 21 regions of the body). There are 18 tables of differential diagnoses, two appendices which list syndromes and diseases associated with men's names, and an adequate index.

This volume is designed for quick reference rather than for study. Today it is a useful tool. Tomorrow or a few tomorrows removed, a good part of it may be superseded by the computer. If we are to believe the prophets of the coming computer revolution, symptom diagnosis will soon be analyzed much better by the machine than by the book. For the present, however, Dr. Yater and Dr. Oliver have performed a great task, one that should make even the computer scientists happy because of the wealth of symptoms with which they are furnished.

Edgar Wayburn, M.D.

* * *

SOMATIC TREATMENTS IN PSYCHIATRY—Lothar B. Kalinowsky, M.D.-Paul H. Hoch, M.D. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1961. 413 pages.

This revised edition of a standard work in psychiatry continues to be the best book regarding somatic treatment in psychiatry. It is easily read, well presented and extensive. It has an excellent bibliography and a good index. The chapters are cohesive and it is as current as a book can be particularly in the area of pharmacotherapy. This book should be a standard reference work for all psychiatrists and all libraries concerned with resident training.

Wayne E. Jacobson, M.D.

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FIRST INTERNATIONAL CONFERENCE ON CONGENITAL MALFORMATIONS—Papers and Discussions Presented at the First International Conference on Congenital Malformations, London, England, July 18-22, 1960. Compiled and Edited for The International Medical Congress, Ltd. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pa., 1962. 314 pages, $7.50.

As the title implies, this book is a compilation of the papers and discussions of a conference held in London in July, 1960, on Congenital Malformations. The conference was attended by many of the current world authorities in the field, and the subjects discussed covered many but not all aspects of the problem including incidence, etiology, mechanisms, normal development and research problems for the future.

In ten pages George W. Corner of the Rockefeller Institute rather nicely summarizes some major aspects of the problem and points to the great need for research in developmental biology. He correctly states the importance of the genes which determine the infinite detail of bodily structure but also acknowledges the many other areas of research which are necessary to obtain a complete understanding of the problem.

Little new information is contained in the formal presentations of the conference. During the discussion periods that followed the formal presentations, many of the participants presented unpublished observations and also raised questions that are very pertinent to investigators in the field.

The book appears to be of little practical value to practicing clinicians; however, it is of definite value to individuals engaged in many spheres impinging upon the problem of Congenital Malformations.

Forrest H. Adams, M.D.

California MEDICINE

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KEY TO ABBREVIATIONS USED

(Or.)—Original Article; (Ed.)—Editorial; (CMA)—California Medical Association; (CR)—Case Report; (I)—Information; (LE)—Letters to the Editor; (PE)—Page End.

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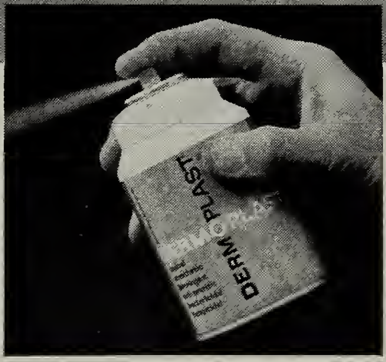

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Describe Diagnostic Test For Stomach Cancer

A simple test has been devised which may enable physicians to solve the difficult problem of differentiating benign from malignant stomach disorders.

Drs. J. Edward Berk and Sheldon M. Kantor, Detroit, writing in the March 31 *Journal of the American Medical Association,* said the technique appears to be "valuable and reliable."

The test is based on a recent finding that the oral administration of tetracycline results in the appearance of fluorescent material in sediment from the stomach contents of patients with stomach cancer while no fluorescence appears in patients without cancer.

Tetracycline drugs themselves are fluorescent but the mechanism by which these antibiotics impart fluorescence to malignant tissue has not been discovered.

Drs. Berk and Kantor tested for fluorescence after ingestion of a tetracycline by normal subjects and patients with various stomach ailments.

The test was positive if a bright yellow glow appeared in the stomach contents removed from the subject, processed and viewed under an ultraviolet lamp, they said.

Fluorescence was found in 13 of a total of 58 tests, the authors said. The 13 patients included 10 with a malignancy of the stomach, two in whom a "premalignant" condition was suspected, and one with "suspicious" cancer cells, they said.

The remaining 45 subjects with negative test results consisted of seven normal persons and 38 patients with benign stomach disorders, they said.

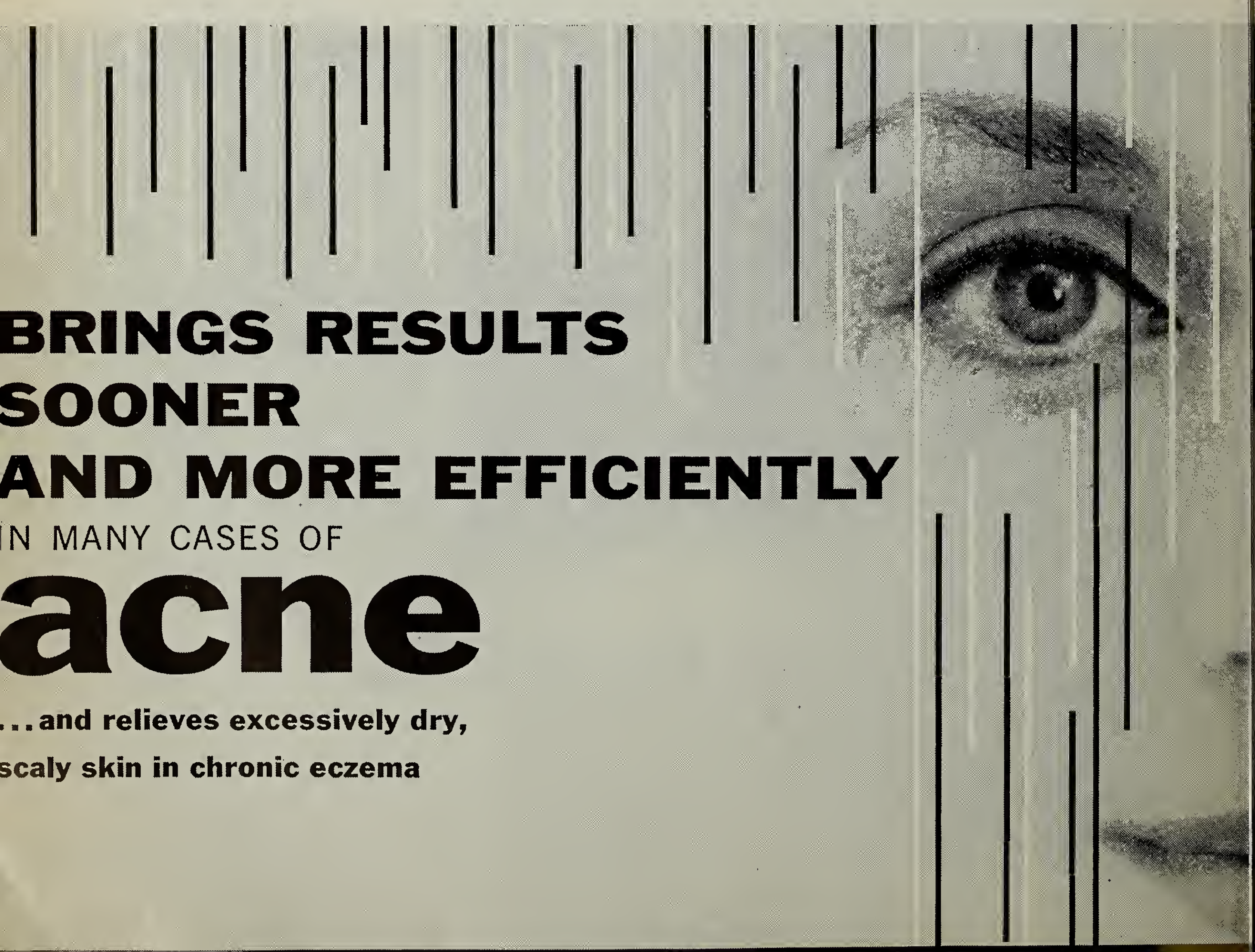
The authors are affiliated with Sinai Hospital of Detroit and Wayne State University College of Medicine.

New Brain Surgery Technique Aids Disabled Victims

A new surgical technique has produced "gratifying" results in patients incapacitated as a result of one of the blood vessels of the brain becoming weakened and distended, according to an article in the March 24 *Journal of the American Medical Association.*

The condition was corrected by enclosing the dilated part of the blood vessel in a plastic jacket which both constricts the area somewhat and also prevents further expansion, Edwin M. Todd, M.D.; C. Hunter Sheldon, M.D.; Benjamin L. Crue, Jr., M.D.; Robert H. Pudenz, M.D., and William F. Agnew, M.S., Pasadena, Calif., reported.

The bulging blood vessel, technically termed intracranial aneurysm, exerts pressure on surrounding tissues and nerves which can produce pain and paralysis. If this blood-filled bulge ruptures, a fatal hemorrhage may occur.



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The plastic coating technique was designed for only the more complicated of these conditions which cannot be corrected by tying off the circulation to the affected area, the authors explained. Although no adverse reactions to the implanted plastic have been encountered, they said, further study is necessary before the real value of the technique can be determined.

The plastic employed is a rapid-hardening silicone rubber which is resistant to moisture and oxidation, they said. It can be prepared and applied easily and molded precisely, they said. Although tough enough to contain the dilated area, they said, the plastic is sufficiently elastic to permit unimpeded flow of blood.

The authors described three cases in which the patients, who had been incapacitated, showed improvement after the plastic jacket operation.

A 52-year-old woman returned to a normal life six months after the operation, a 40-year-old woman resumed teaching within two months after her operation, and the third patient, a woman, 61, is able to perform limited household chores and is continuing to improve, they said.

The researchers are affiliated with the Institute of Medical Research and the Department of Neurosurgery, Collis P. and Howard Huntington Memorial Hospital.

M.D. Lobby to Fight Air Pollution Urged

The medical profession was urged recently to "constitute itself a lobby against air pollution" in the same way it lobbied successfully for the prevention of tuberculosis in the 1920's and 1930's.

"A wholehearted and persistent effort to prevent air pollution can have equal success," Drs. Seymour M. Farber and Roger H. L. Wilson, San Francisco, said in the May 5 *Journal of the American Medical Association.*

Air pollution plays an important role in the development of not only lung cancer, but also many other chronic respiratory diseases, they said.

A great many of the malignant, chronic and degenerative diseases are now known to originate in the environment of the individual just as surely as tuberculosis originates in exposure to tubercle bacilli, they said.

The central problem which must dominate research in medicine in the foreseeable future is the relationship of environment to health, they said, and the most acute environmental problem is the relationship between air contamination and respiratory disease.

"One of the most important problems in medicine today is the low-level but chronic poisoning of our atmosphere by dozens of chemical processes characteristic of an advancing civilization, a poisoning

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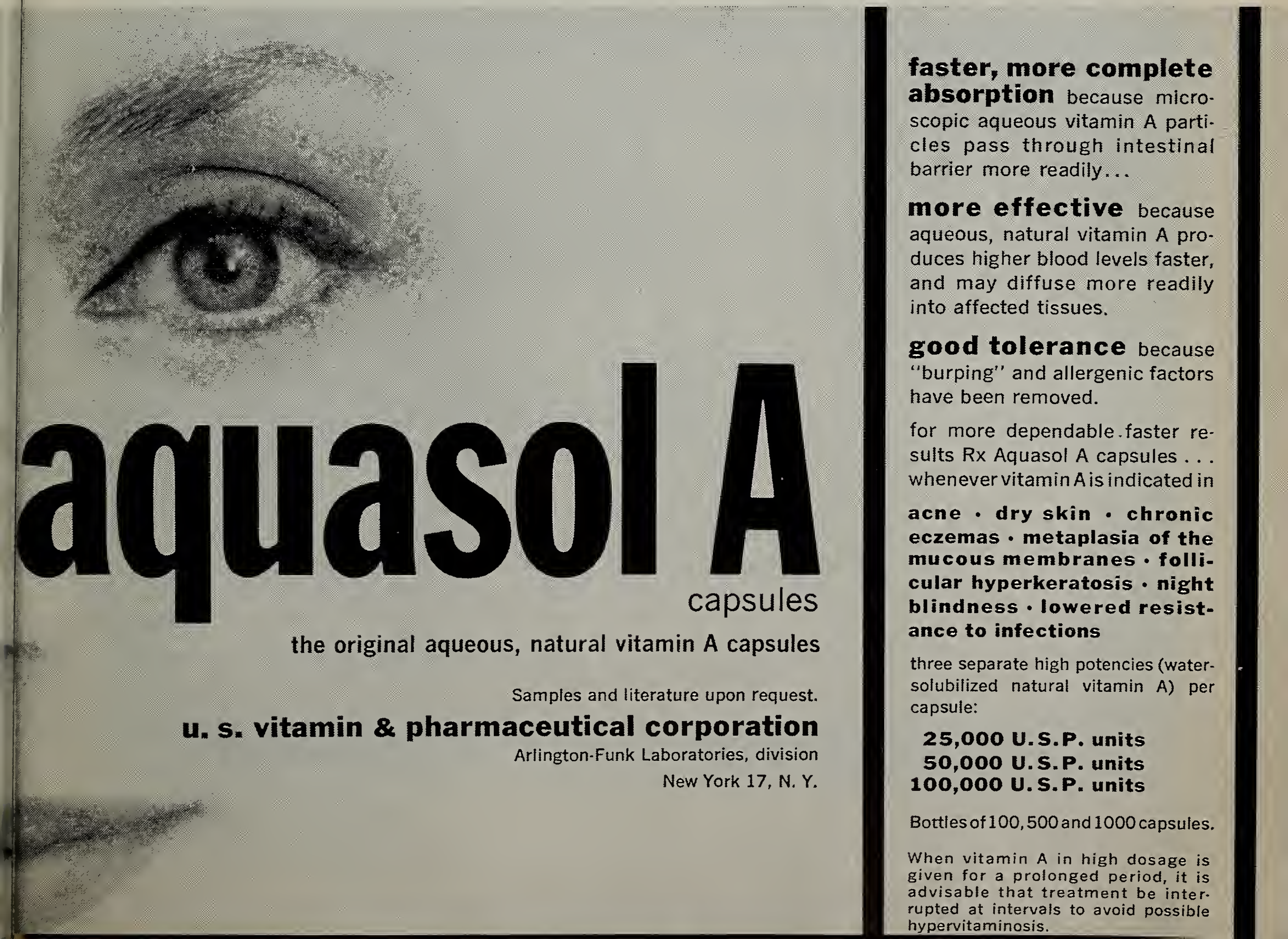

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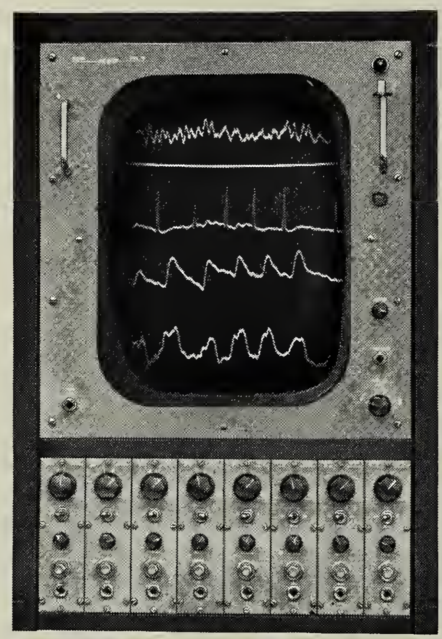

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Partially Hydrogenated Fats And Cholesterol Studied

Some partially hydrogenated vegetable oils widely consumed in the American diet have been shown to create blood cholesterol responses equivalent to unhydrogenated vegetable oil, it was reported in the May 5 *Journal of the American Medical Association.*

Fats and oils contain varying amounts of saturated, polyunsaturated and monounsaturated fatty acids. A saturated fatty acid is one containing all the hydrogen atoms it can hold. A polyunsaturated fatty acid has more than one unsaturated bond in its chemical makeup, and a monounsaturated has just one unsaturated bond.

When a fat or oil is hydrogenated, i.e., combined with hydrogen, the number of unsaturated bonds are reduced, and this usually means some reduction in the polyunsaturated content.

However, a study reported in the *Journal* indicated that dietary fats containing 25 per cent or less of saturated fatty acids and a polyunsaturated to saturated ratio greater than 0.5 created blood cholesterol responses equivalent to unhydrogenated cottonseed oil.

The study was conducted among 36 male inmates of Philadelphia County Prison at Holmesburg, Pa., by Don E. McOsker, Ph.D., Fred H. Mattson, Ph.D., H. Bruce Sweringen, B.Ch.E., Miami Valley Laboratories of The Procter and Gamble Company, Cincinnati, and Albert M. Kligman, M.D., University of Pennsylvania Medical School, Philadelphia.

Seven different dietary fats with saturated fatty acid content ranging from 14 to 64 per cent were studied. The fats were included in a liquid formula diet with egg white, dextrose, salt and water.

The fats with the highest percentage of saturated fatty acids were unsalted butterfat (64 per cent saturated) and a blend of animal and vegetable fats present in the average American diet (40 per cent saturated).

Butterfat produced significantly higher cholesterol levels than all of the other fats, the four researchers reported.

The blend representing the average American diet produced a cholesterol level significantly higher than that obtained with four partially hydrogenated fats and oils containing 25 per cent or less of saturated fatty acids, they said.

In conclusion, the group said it appears that partially hydrogenated vegetable fats are no different from unhydrogenated fats in their effect on blood cholesterol level. However, they added, it might be expected that consumption of a fat that had been more extensively hydrogenated than those used in the study would result in an elevation of blood cholesterol.

It is believed by some medical authorities that cholesterol is a causal factor in hardening of the arteries and heart disease.

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1. Ford, R. V.: Clin. Res. Notes 2:1 (Dec.) 1959. 2. Ford, R. V.: Cur. Therap. Res. 2:92 (Mar.) 1960. 3. Elliott, J. P., Jr., and Goldman, A. M.: South. M.J. 54:794 (July) 1961.

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Raddin, J.: Med. Times, July 1961

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Hootnick, H. J.: J. Am. Ger. Soc., 4:1021-1030, 1956

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Marshall, W.: S. D. J. Med. & Pharm., 8:151-153, 1955

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M.D. Lobby to Fight Air Pollution Urged

(Continued from Page 57)

which has its effect only over the course of many years, but which nonetheless inexorably cripples and kills," the two physicians said.

Although a connection between air pollution and noncancerous lung diseases can only be proposed tentatively, they said, "The connection between air pollution and cancer of the respiratory system is as sure as statistical studies can make it."

Studies from all parts of the world conclude that air pollution plays a substantial role in causing lung cancer, they said.

However, they said, "we are hardly on the threshold of understanding the air we breathe."

Statistical correlations are lacking between specific pollutants and the incidence of noncancerous lung ailments, they said, and while there is an abundance of evidence that a number of substances found in polluted air cause cancer in laboratory animals, much experimental work remains to be done before any real understanding of the relationship between lung cancer and air pollution can be attained.

Although present knowledge is crude and unsatisfactory, they concluded, it is known that air pollution is a hazard to health and this knowledge should be applied to the elimination of air pollution to the maximum possible degree.

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